

Index of Technical and Symposium Papers

Vol. 107, Part 1

TITLES

A

- Achieving Dry Outside Air in an Energy-Efficient Manner, STANLEY A. MUMMA, KURT SHANK 553
- Advances in Residential Wall Technologies--Simple Ways of Decreasing the Whole Building Energy Consumption, JAN KOSNY 421
- Analysis of Combined CFD and Multizone IAQ Model Assembly Issues, An, AMY MUSSER 371
- Assessment of Thermal Comfort During Surgical Operations, RODRIGO MORA, MICHAEL J.M. ENGLISH, ANDREAS K. ATHIENTIS 52

C

- Case Study of a Fire Engineering Approach to a Large, Unsprinklered, Naturally Ventilated Atrium Building, FRANK A. MILLS 744
- Ceiling Radiant Cooling Panels as a Viable Distributed Parallel Sensible Cooling Technology Integrated with Dedicated Outdoor Air Systems, CHRISTOPHER L. CONROY, STANLEY A. MUMMA 578
- CFD Simulation in Atrium Smoke Management System Design, RAY SINCLAIR 711
- Chloride, Fluoride, and Acidity Measurements in Refrigerants, NGOC DUNG T. ROHATGI, TONYA T. WHITMIRE, ROBERT W. CLARK 141
- Combustion Turbine Inlet Air Cooling (CTIAC) Benefits and Technology Options in District Energy Applications, JOHN S. ANDREPONT 892
- Condensation and Icing in Gas Turbine Systems Inlet Air Temperature and Humidity Limits, WILLIAM E. STEWART, JR. 887
- Correlations Between the Internal Diffusion and Equilibrium Partition Coefficients of Volatile Organic Compounds (VOCs) in Building Materials and the VOC Properties, A. BODALAL, J.S. ZHANG, E.G. PLETT, C.Y. SHAW 789

D

- Dedicated Outdoor Air-Dual Wheel System Control Requirements, STANLEY A. MUMMA 147
- Descriptive Framework for Cool Storage Operating and Control Strategies, A, CHAD B. DORGAN, CHARLES E. DORGAN, IAN B.D. MCINTOSH 93

- Desiccant Cooling for Swedish Office Buildings, JOHNNY V. ANDERSSON, TORBJÖRN LINDHOLM 490
- Determine the Efficacy of Antimicrobial Treatments of Fibrous Air Filters, KARIN K. FOARDE, JAMES T. HANLEY 156
- Development of a Textured Spun-Bonded Polyolefin Water Barrier for Stucco and EIFS, THERESA A. WESTON, MICHEL STACHNIK, JAMES WAGGONER 433
- Distribution of Chemical Pollutants in a Room Based on CFD Simulation Coupled with Emission/Sorption Analysis, SHUZO MURAKAMI, SHINSUKE KATO, KAZUhide ITO, AKIRA YAMAMOTO, YASUSHI KONDO, JUN-ICHI FUJIMURA 812
- Dual Set Point Control of Open-Loop Heat Pump Systems, KEVIN RAFFERTY 600

E

- Effect of 1997 Handbook Summer Design Temperature Specifications on Enthalpy and Humidity Ratio, JAMES W. STEVENS 178
- Effect of Tilt Angle and Temperature Difference on Solar Heat Gain Coefficient Measurement of Fenestration System, CHING-CHIA (THOMAS) TSENG, D. YOGI GOSWAMI 684
- Effective Lift Characterization of GAX Cycles, G. ANAND, D.C. ERICKSON 469
- Effects of Airflow on VOC Emissions from "Wet" Coating Materials Experimental Measurements and Numerical Simulation, XUDONG YANG, QINGYAN CHEN, JIE ZENG, JIANSHUN ZHANG, GANG NONG, CHIA-YU SHAW 801
- Effects of Calorimeter Tilt on the Inward-Flowing Fraction of Absorbed Solar Radiation in a Venetian Blind, The, M.R. COLLINS, S.J. HARRISON 677
- Efficacy of DBNPA Against Legionella pneumophila: Experimental Results in a Model Water System, YANG GAO, PING ZHOU, Y. EASON LIN, RADISAV D. VIDIC, JANET E. STOUT 184
- Energy Retrofit of a Neoclassic Office Building--Social Aspects and Lessons Learned, CONSTANTINOS A. BALARAS 191
- Evaluation of Biofiltration of Air--An Innovative Air Pollution Control Technology, KEVIN A. JANNI, WALTER J. MAIER, THOMAS H. KUEHN, CHING-HSU YANG, BARRY B. BRIDGES, DONALD VESLEY, MELISSA A. NELLIS 198
- Experimental Determination of the Effects of Turbulence Intensity on the Performance of Rotating Vane Anemometers, KEVIN RAFFERTY 600

mometers, DAWN M. MORRIS, B. TERRY BECK, MOHAMMAD H. HOSNI	215	DHARAM V. PUNWANI, TOM PIERSON, JAMES BAGLEY, WILLIAM A. RYAN	875
Experimental Study of an R-407C Heat Pump Water Heat- er, VINCE C. MEI, RONALD E. DOMITROVIC, WAYNE H. BREWER, FANG C. CHEN, TITU R. DOC- TOR.	224		
Experimental Study of Flow Characteristics of a Diffuser for Under Floor Air-Conditioning System, YOUNGIL KIM, KISEOB LEE, HYUNGHEE CHO	230		
Expert Rule Set for Fault Detection in Air-Handling Units, An, JOHN M. HOUSE, HOSSEIN VAEZI-NEJAD, J. MICHAEL WHITCOMB	858		
F		I	
Field Validation of a Short Time Step Model for Vertical Ground-Loop Heat Exchangers, CENK YAVUZ- TURK, JEFFREY D. SPITLER	618	Ice Slurry Cooling Research Color Effects of Microscale Ice Particle Characteristics and Freezing-Point- Depressant Additives on Ice Slurry Fluidity, KANE- TOSHI HAYASHI, KEN E. KASZA	346
Flow Calculations for Fixed-Area Expansion Devices, X.D. FANG	130	Impact of Combinations of Building Materials and Inter- mittent Ventilation on Perceived Air Quality, The, FARIBORZ HAGHIGHAT, Wafa Sakr, Lars Gun- narsen, Michael von Grunau	821
Forced Dispersion of Ammonia Plumes into the Atmo- sphere, DONALD L. FENTON, CLAYTON D. WALEN- TA, KIRBY S. CHAPMAN	237	Impact Of Dual Utility Selection on 305 m ² (1000 ft ²) Res- idences, RICHARD D. WATSON, KIRBY S. CHAP- MAN, LINDA WIGGINGTON	365
G		Indoor Air Quality and Hygroscopically Active Materials, J.F. STRAUBE, J.P. DEGRAAUW	444
Ground-Coupled Heat Pump System Simulation, MICH- EL A. BERNIER.	605	Instrumentation Issues for Monitoring Chiller Plant Effi- ciency, THOMAS B. HARTMAN.	407
Guidance and Tools for Night and Evaporative Cooling in Office Buildings, JEAN-ROBERT MILLET	511	Integration of Hydronic Thermal Transport Systems with Fire Suppression Systems, WALTER M. JANUS	572
H		L	
Heat and Mass Transfer Properties of Zeolite 13X-H ₂ O Adsorption Reactor, MANXI HOU, YIMING YANG	248	Local Heat Transfer Characteristics of Louvered Plate Fin Surfaces, CHANG DUK JEON, JINHO LEE	338
Heat Transfer and Pressure Drop of Gas Coolers, XIAN- DE FANG, CLARK W. BULLARD, PREDRAG. S. HRNJAK	255	Long-Term Experience with External-Melt Ice-on-Coil Storage Cooling System, CHANG W. SOHN, JACK L. NIXON	532
Heating of Church Buildings of Historic Importance with Direct Gas-Fired Heating Systems, WEIZHONG XIANG, SAVVAS A. TASSOU, MARIA KOLOKOTRONI	357	M	
How to Use the New Codes in Moderate Seismic Areas, PATRICK J. LAMA	769	Maneuvering Through the Maze of Seismic Building Codes and Guides, ROBERT E. SIMMONS	755
Hybrid Heating and Ventilating of Industrial Facilities Connected to District Energy System, DUSAN PETRAS	390	Measurement Considerations for the Determination of Central Plant Efficiency, STEPHEN J. TREADO, TODD SNOUFFER.	401
Hybrid System for Combustion Turbine Inlet Air Cooling at a Cogeneration Plant in Pasadena, Texas, A,		Measurement of Energy Consumption in kW Per Ton for Central Chilled Water Plants, The, JAMES B. (BURT) RISHEL.	397
		Model-Based Fault Detection and Diagnosis for Cooling Towers, BYUNG-CHEON AHN, JOHN W. MITCH- ELL, IAN B.D. MCINTOSH.	839
		Modeling and Analysis of Gas Coolers, XIANDE FANG, CLARK W. BULLARD, PREDRAG S. HRNJAK	4
		Multiple Model Approach of a Residential Heat Pump for Integration in a Building Thermal Simulation Code and Comparison with Experimental Results,	

FRANÇOIS GARDE, FRANCK LUCAS, HARRY BOY-
ER, JEAN BRAU 14

Reedsburg Technical College Ice Maker Heat Pump,
CHARLES E. DORGAN 538

N

- New Approach to Turbine Inlet Air Cooling, A, EDISON
TITO GUIMARÃES 882
- New Technique to Improve the Efficiency of Wet Cooling
Tower, A, SUIBING LIU, QI ZHOU 102
- Night Ventilation Cooling of Office Buildings Parametric
Analyses of Conceptual Energy Impacts, MARIA
KOLOKOTRONI 479
- Nulling Test A New Measurement Technique for Estimat-
ing Duct Leakage in Residential Homes, The, PAUL
W. FRANCISCO, LARRY S. PALMITER 297
- Numerical Study of Absorption in a Laminar Falling Film
of Ammonia-Water, KHALED GOMMED, GERSHON
GROSSMAN, MICHAEL S. KOENIG 453

O

- Optimal Sizing of Hybrid Ground-Source Heat Pump Sys-
tems that Use a Cooling Pond as a Supplemental
Heat Rejecter—A System Simulation Approach,
MAHADEVAN RAMAMOORTHY, HUI JIN, ANDREW
D. CHIASSON, JEFFREY D. SPITLER 26
- Optimization of Hydraulic Conditions in District Heat-
ing Networks, XUZHONG QIN, YI JIANG, YINGX-
IN ZHU 270
- Overview of Integrating Dedicated Outdoor Air Sys-
tems with Parallel Terminal Systems, STANLEY A.
MUMMA 545

P

- Performance of Innovative Vapor Retarders Under Sum-
mer Conditions, HARTWIG M. KÜNZEL, HANS-
PETER LEIMER 417
- Potential Application of Water Mist Systems for Fire Pro-
tection in Atria, The, W.K. CHOW, B. YAO 171
- Pre-Design and Design Tools for Evaporative Cooling,
PASCAL STABAT, DOMINIQUE MARCHIO, MAT-
THIEU ORPHELIN 501
- Prediction of Skin and Clothing Temperatures Under
Thermal Transient Considering Moisture Accumu-
lation in Clothing, T. UMENO, S. HOKOI, S.
TAKADA 71

R

- Radiant Panel Surface Temperature Over a Range of
Ambient Temperatures, KIRBY S. CHAPMAN, JAMIE
E. HOWELL, RICHARD D. WATSON 383

S

- Second Law Analysis of Refrigerators and Air Condition-
ers, BRIAN D. BRIDGES, DEREK S. HARSHBARG-
ER, CLARK W. BULLARD 644
- Second Law Analysis of Various Double-Effect Lithium
Bromide/Water Absorption Chillers, SHUN-FU LEE,
S.A. SHERIF 664
- Selecting the Supply Air Conditions for a Dedicated Out-
door Air System Working in Parallel with Distributed
Sensible Cooling Terminal Equipment, KURT M.
SHANK, STANLEY A. MUMMA 562
- Simple Approach to Thermal Performance Analysis of
Small Hermetic Reciprocating Compressors, A,
MAN-HOE KIM, CLARK W. BULLARD 109
- Simple Rule-Based Methods for Fault Detection and
Diagnostics Applied to Packaged Air Conditioners,
BIN CHEN, JAMES E. BRAUN 847
- Simplified Analysis of Radiant Heat Loss Through Pro-
jecting Fenestration Products, A, JOHN L.
WRIGHT 700
- Simplified Tool for Assessing the Feasibility of
Ground-Source Heat Pump Projects, A, MICHEL
PARENT 120
- Simulation of Source Energy Utilization and Emissions
for HVAC Systems, ROBERT A. GANSLER, DOU-
GLAS T. REINDL, TODD B. JEKEL 39
- Smoke Hazard from a Fire in High Spaces, The,
GARY D. LOUGHEED, GEORGE V. HADJISO-
PHOCLEOUS 720
- Spatial Homogeneity of Air in a Mushroom Tunnel Sing-
le vs. Boost Duct Air Distribution Systems, DAV-
ID P. MARTIN, JOHN V. RINGWOOD, JAMES J.
GRANT 275
- Sprinklered Mercantile Fires, GARY D. LOUGHEED, CAM
MCCARTNEY, BRUCE C. TABER 730
- Stability Analysis and Tuning of PID Controller in VAV
Systems, MASATO KASAHARA, TAKANORI
YAMAZAKI, YOSHIKI KUZUU, YUKIHIRO HASHIM-
OTO, KAZUYUKI KAMIMURA, TADAHICO MATSU-
BA, SHIGERU KUROSU 285
- Static Modeling of Equipment Acted on by Seismic Forc-
es, PAUL W. MEISEL 775
- Surface Tension of Aqueous Lithium Bromide with Con-
trolled Vapor Concentration of 2-Ethyl-Hexanol, Z.
YUAN, K.E. HEROLD 463

T

- Temperature Efficiency of Rooms with Displacement
Ventilation, HONG-ZUO ZHAO, LEI ZHAO 64

- Test of Measured Solar Heat Gain Variation in a Fenestration and Shade Combination with Respect to Test Specimen Tilt, M.R. COLLINS, S.J. HARRISON 691
- Thermal Performance of Flooded Evaporators, Part 1: Review of Boiling Heat Transfer Studies, SERGIO CASCIARO, JOHN R. THOME 903
- Thermal Performance of Flooded Evaporators, Part 2: Review of Void Fraction, Two-Phase Pressure Drop, and Flow Pattern Studies, SERGIO CASCIARO, JOHN R. THOME 919
- Thermoeconomic Analysis of Absorption Heat Transformers, SHUN-FU LEE, S.A. SHERIF 652
- Thermoeconomic Analysis of Absorption Systems for Cooling, SHUN-FU LEE, S.A. SHERIF 629
- Thermoeconomics Applied to Air-Conditioning Systems, MIGUEL ANGEL FERRER, MIGUEL ANGEL LOZANO, ROBERT TOZER 638

U

- University Hospital Chilled Water Thermal Storage—Still Meeting the Challenges, GORDON V.R. HOLNESS 525
- Utility/Customer Information Services, Part 1—Descriptions of Services and Discussion on Interoperability for Service Implementation, MICHAEL KINTNER-MEYER, MARTIN J. BURNS 306
- Utility/Customer Information Services, Part 2—Data Object Modeling and Mapping to BACnet™, MICHAEL KINTNER-MEYER, MARTIN J. BURNS 314

V

- Validation of EHD-Enhanced Nucleate Boiling Correlation, C.C. PASCUAL, J.H. STROMBERGER, S.M. JETER, S.I. ABDEL-KHALIK 326
- Vote Method of Deciding Supply Air Temperature Setpoint for VAV Air-Conditioning System, XIANGYANG CHEN, KAZUYUKI KAMIMURA 82

AUTHORS

A

- ABDEL-KHALIK, S.I., C.C. PASCUAL, J.H. STROMBERGER, S.M. JETER, Validation of EHD-Enhanced Nucleate Boiling Correlation 326
- AHN, BYUNG-CHEON, JOHN W. MITCHELL, IAN B.D. MCINTOSH, Model-Based Fault Detection and Diagnosis for Cooling Towers 839

- ANAND, G., D.C. ERICKSON, Effective Lift Characterization of GAX Cycles 469
- ANDERSSON, JOHNNY V., TORBJÖRN LINDHOLM, Desiccant Cooling for Swedish Office Buildings 490
- ANDREPONT, JOHN S., Combustion Turbine Inlet Air Cooling (CTIAC) Benefits and Technology Options in District Energy Applications 892
- ATHIENITIS, ANDREAS K., RODRIGO MORA, MICHAEL J.M. ENGLISH, Assessment of Thermal Comfort During Surgical Operations 52

B

- BAGLEY, JAMES, DHARAM V. PUNWANI, TOM PIERSON, WILLIAM A. RYAN, A Hybrid System for Combustion Turbine Inlet Air Cooling at a Cogeneration Plant in Pasadena, Texas 875
- BALARAS, CONSTANTINOS A., Energy Retrofit of a Neoclassic Office Building—Social Aspects and Lessons Learned 191
- BECK, B. TERRY, DAWN M. MORRIS, MOHAMMAD H. HOSNI, Experimental Determination of the Effects of Turbulence Intensity on the Performance of Rotating Vane Anemometers 215
- BERNIER, MICHEL A., Ground-Coupled Heat Pump System Simulation 605
- BODALAL, A., J.S. ZHANG, E.G. PLETT, C.Y. SHAW, Correlations Between the Internal Diffusion and Equilibrium Partition Coefficients of Volatile Organic Compounds (VOCs) in Building Materials and the VOC Properties 789
- BOYER, HARRY, FRANÇOIS GARDE, FRANCK LUCAS, JEAN BRAU, Multiple Model Approach of a Residential Heat Pump for Integration in a Building Thermal Simulation Code and Comparison with Experimental Results 14
- BRAU, JEAN, FRANÇOIS GARDE, FRANCK LUCAS, HARRY BOYER, Multiple Model Approach of a Residential Heat Pump for Integration in a Building Thermal Simulation Code and Comparison with Experimental Results 14
- BRAUN, JAMES E., BIN CHEN, Simple Rule-Based Methods for Fault Detection and Diagnostics Applied to Packaged Air Conditioners 847
- BREWER, WAYNE H., VINCE C. MEI, RONALD E. DOMITROVIC, FANG C. CHEN, TITU R. DOCTOR, Experimental Study of an R-407C Heat Pump Water Heater 224
- BRIDGES, BARRY B., KEVIN A. JANNI, WALTER J. MAIER, THOMAS H. KUEHN, CHING-HSU YANG, DONALD VESLEY, MELISSA A. NELLIS, Evaluation of Biofiltration of Air—An Innovative Air Pollution Control Technology 198
- BRIDGES, BRIAN D., DEREK S. HARSHBARGER, CLARK W. BULLARD, Second Law Analysis of Refrigerators and Air Conditioners 644
- BULLARD, CLARK W., BRIAN D. BRIDGES, DEREK S. HARSHBARGER, Second Law Analysis of Refrigerators and Air Conditioners 644

BULLARD, CLARK W., MAN-HOE KIM, A Simple Approach to Thermal Performance Analysis of Small Hermetic Reciprocating Compressors	109
BULLARD, CLARK W., XIANDE FANG, PREDRAG S. HRNJAK, Modeling and Analysis of Gas Coolers	4
BULLARD, CLARK W., XIANDE FANG, PREDRAG. S. HRNJAK, Heat Transfer and Pressure Drop of Gas Coolers	255
BURNS, MARTIN J., MICHAEL KINTNER-MEYER, Utility/Customer Information Services, Part 1: Descriptions of Services and Discussion on Interoperability for Service Implementation.	306
BURNS, MARTIN J., MICHAEL KINTNER-MEYER, Utility/Customer Information Services, Part 2: Data Object Modeling and Mapping to BACnet™	314

C

CASCIARO, SERGIO, JOHN R. THOME, Thermal Performance of Flooded Evaporators, Part 1: Review of Boiling Heat Transfer Studies.	903
CASCIARO, SERGIO, JOHN R. THOME, Thermal Performance of Flooded Evaporators, Part 2: Review of Void Fraction, Two-Phase Pressure Drop, and Flow Pattern Studies	919
CHAPMAN, KIRBY S., DONALD L. FENTON, CLAYTON D. WALENTA, Forced Dispersion of Ammonia Plumes into the Atmosphere	237
CHAPMAN, KIRBY S., JAMIE E. HOWELL, RICHARD D. WATSON, Radiant Panel Surface Temperature Over a Range of Ambient Temperatures	383
CHAPMAN, KIRBY S., RICHARD D. WATSON, LINDA WIGGINGTON, Impact Of Dual Utility Selection on 305 m ² (1000 ft ²) Residences.	365
CHEN, BIN, JAMES E. BRAUN, Simple Rule-Based Methods for Fault Detection and Diagnostics Applied to Packaged Air Conditioners.	847
CHEN, FANG C., VINCE C. MEI, RONALD E. DOMITROVIC, WAYNE H. BREWER, TITU R. DOCTOR, Experimental Study of an R-407C Heat Pump Water Heater	224
CHEN, QINGYAN, XUDONG YANG, JIE ZENG, JIANSHUN ZHANG, GANG NONG, CHIA-YU SHAW, Effects of Airflow on VOC Emissions from "Wet" Coating Materials Experimental Measurements and Numerical Simulation	801
CHEN, XIANGYANG, KAZUYUKI KAMIMURA, Vote Method of Deciding Supply Air Temperature Setpoint for VAV Air-Conditioning System	82
CHIASOON, ANDREW D., MAHADEVAN RAMAMOORTHY, HUI JIN, JEFFREY D. SPITLER, Optimal Sizing of Hybrid Ground-Source Heat Pump Systems that Use a Cooling Pond as a Supplemental Heat Rejecter—A System Simulation Approach	26
CHO, HYUNGHEE, YOUNGIL KIM, KISEOB LEE, Experimental Study of Flow Characteristics of a Diffuser for Under Floor Air-Conditioning System	230
CHOW, W.K., B. YAO, The Potential Application of Water Mist Systems for Fire Protection in Atria.	171

CLARK, ROBERT W., NGOC DUNG T. ROHATGI, TONYA T. WHITMIRE, Chloride, Fluoride, and Acidity Measurements in Refrigerants	141
COLLINS, M.R., S.J. HARRISON, Test of Measured Solar Heat Gain Variation in a Fenestration and Shade Combination with Respect to Test Specimen Tilt.	691
COLLINS, M.R., S.J. HARRISON, The Effects of Calorimeter Tilt on the Inward-Flowing Fraction of Absorbed Solar Radiation in a Venetian Blind	677
CONROY, CHRISTOPHER L., STANLEY A. MUMMA, Ceiling Radiant Cooling Panels as a Viable Distributed Parallel Sensible Cooling Technology Integrated with Dedicated Outdoor Air Systems	578

D

DEGRAAUW, J.P., J.F. STRAUBE, Indoor Air Quality and Hygroscopically Active Materials	444
DOCTOR, TITU R., VINCE C. MEI, RONALD E. DOMITROVIC, WAYNE H. BREWER, FANG C. CHEN, Experimental Study of an R-407C Heat Pump Water Heater	224
DOMITROVIC, RONALD E., VINCE C. MEI, WAYNE H. BREWER, FANG C. CHEN, TITU R. DOCTOR, Experimental Study of an R-407C Heat Pump Water Heater.	224
DORGAN, CHAD B., CHARLES E. DORGAN, IAN B.D. MCINTOSH, A Descriptive Framework for Cool Storage Operating and Control Strategies	93
DORGAN, CHARLES E., CHAD B. DORGAN, IAN B.D. MCINTOSH, A Descriptive Framework for Cool Storage Operating and Control Strategies	93
DORGAN, CHARLES E., Reedsburg Technical College Ice Maker Heat Pump.	538

E

ENGLISH, MICHAEL J.M., RODRIGO MORA, ANDREAS K. ATHIENITIS, Assessment of Thermal Comfort During Surgical Operations	52
ERICKSON, D.C., G. ANAND, Effective Lift Characterization of GAX Cycles	469

F

FANG, X.D., Flow Calculations for Fixed-Area Expansion Devices.	130
FANG, XIANDE, CLARK W. BULLARD, PREDRAG S. HRNJAK, Modeling and Analysis of Gas Coolers. . . .	4
FANG, XIANDE, CLARK W. BULLARD, PREDRAG. S. HRNJAK, Heat Transfer and Pressure Drop of Gas Coolers.	255
FENTON, DONALD L., CLAYTON D. WALENTA, KIRBY S. CHAPMAN, Forced Dispersion of Ammonia Plumes into the Atmosphere.	237

FERRER, MIGUEL ANGEL, MIGUEL ANGEL LOZANO, ROBERT TOZER, Thermoeconomics Applied to Air-Conditioning Systems.	638
FOARDE, KARIN K., JAMES T. HANLEY, Determine the Efficacy of Antimicrobial Treatments of Fibrous Air Filters.	156
FRANCISCO, PAUL W., LARRY S. PALMITER, The Nulling Test A New Measurement Technique for Estimating Duct Leakage in Residential Homes	297
FUJIMURA, JUN-ICHI, SHUZO MURAKAMI, SHINSUKE KATO, KAZUhide ITO, AKIRA YAMAMOTO, YASUSHI KONDO, Distribution of Chemical Pollutants in a Room Based on CFD Simulation Coupled with Emission/Sorption Analysis.	812

G

GANSLER, ROBERT A., DOUGLAS T. REINDL, TODD B. JEKEL, Simulation of Source Energy Utilization and Emissions for HVAC Systems.	39
GAO, YANG, PING ZHOU, Y. EASON LIN, RADISAV D. VIDIC, JANET E. STOUT, Efficacy of DBNPA Against Legionella pneumophila: Experimental Results in a Model Water System.	184
GARDE, FRANÇOIS, FRANCK LUCAS, HARRY BOYER, JEAN BRAU, Multiple Model Approach of a Residential Heat Pump for Integration in a Building Thermal Simulation Code and Comparison with Experimental Results	14
GOMMED, KHALED, GERSHON GROSSMAN, MICHAEL S. KOENIG, Numerical Study of Absorption in a Laminar Falling Film of Ammonia-Water	453
GOSWAMI, D. YOGI, CHING-CHIA (THOMAS) TSENG, Effect of Tilt Angle and Temperature Difference on Solar Heat Gain Coefficient Measurement of Fenestration System.	684
GRANT, JAMES J., DAVID P. MARTIN, JOHN V. RINGWOOD, Spatial Homogeneity of Air in a Mushroom Tunnel Single vs. Boost Duct Air Distribution Systems.	275
GROSSMAN, GERSHON, KHALED GOMMED, MICHAEL S. KOENIG, Numerical Study of Absorption in a Laminar Falling Film of Ammonia-Water	453
GUIMARÃES, EDISON TITO, A New Approach to Turbine Inlet Air Cooling.	882
GUNNARSEN, LARS, FARIBORZ HAGHIGHAT, WAFSA SAKR, MICHAEL VON GRUNAU, The Impact of Combinations of Building Materials and Intermittent Ventilation on Perceived Air Quality	821

H

HADJISOPHOCLEOUS, GEORGE V., GARY D. LOUGHEED, The Smoke Hazard from a Fire in High Spaces	720
HAGHIGHAT, FARIBORZ, WAFSA SAKR, LARS GUNNARSEN, MICHAEL VON GRUNAU, The Impact of	

Combinations of Building Materials and Intermittent Ventilation on Perceived Air Quality.	821
HANLEY, JAMES T., KARIN K. FOARDE, Determine the Efficacy of Antimicrobial Treatments of Fibrous Air Filters	156
HARRISON, S.J., M.R. COLLINS, Test of Measured Solar Heat Gain Variation in a Fenestration and Shade Combination with Respect to Test Specimen Tilt.	691
HARRISON, S.J., M.R. COLLINS, The Effects of Calorimeter Tilt on the Inward-Flowing Fraction of Absorbed Solar Radiation in a Venetian Blind	677
HARSHBARGER, DEREK S., BRIAN S. BRIDGES, CLARK W. BULLARD, Second Law Analysis of Refrigerators and Air Conditioners	644
HARTMAN, THOMAS B., Instrumentation Issues for Monitoring Chiller Plant Efficiency	407
HASHIMOTO, YUKIHIRO, MASATO KASAHARA, TAKANORI YAMAZAKI, YOSHIKI KUZUU, KAZUYUKI KAMIMURA, TADAHICO MATSUBA, SHIGERU KUROSU, Stability Analysis and Tuning of PID Controller in VAV Systems	285
HAYASHI, KANETOSHI, KEN E. KASZA, Ice Slurry Cooling Research: Effects of Microscale Ice Particle Characteristics and Freezing-Point-Depressant Additives on Ice Slurry Fluidity.	346
HEROLD, K.E., Z. YUAN, Surface Tension of Aqueous Lithium Bromide with Controlled Vapor Concentration of 2-Ethyl-Hexanol.	463
HOKOI, S., T. UMENO, S. TAKADA, Prediction of Skin and Clothing Temperatures Under Thermal Transient Considering Moisture Accumulation in Clothing	71
HOLNESS, GORDON V.R., University Hospital Chilled Water Thermal Storage--Still Meeting the Challenges.	525
HOSNI, MOHAMMAD H., DAWN M. MORRIS, B. TERRY BECK, Experimental Determination of the Effects of Turbulence Intensity on the Performance of Rotating Vane Anemometers	215
HOU, MANXI, YIMING YANG, Heat and Mass Transfer Properties of Zeolite 13X-H ₂ O Adsorption Reactor	248
HOUSE, JOHN M., HOSSEIN VAEZI-NEJAD, J. MICHAEL WHITCOMB, An Expert Rule Set for Fault Detection in Air-Handling Units	859
HOWELL, JAMIE E., KIRBY S. CHAPMAN, RICHARD D. WATSON, Radiant Panel Surface Temperature Over a Range of Ambient Temperatures	383
HRNJAK, PREDRAG S., XIANDE FANG, CLARK W. BULLARD, Modeling and Analysis of Gas Coolers	4
HRNJAK, PREDRAG S., XIANDE FANG, CLARK W. BULLARD, Heat Transfer and Pressure Drop of Gas Coolers.	255

I

ITO, KAZUhide, SHUZO MURAKAMI, SHINSUKE KATO, AKIRA YAMAMOTO, YASUSHI KONDO, JUN-ICHI	
---	--

FUJIMURA, Distribution of Chemical Pollutants in a Room Based on CFD Simulation Coupled with Emission/Sorption Analysis 812

J

- JANNI, KEVIN A., WALTER J. MAIER, THOMAS H. KUEHN, CHING-HSU YANG, BARRY B. BRIDGES, DONALD VESLEY, MELISSA A. NELLIS, Evaluation of Biofiltration of Air—An Innovative Air Pollution Control Technology 198
- JANUS, WALTER M., Integration of Hydronic Thermal Transport Systems with Fire Suppression Systems 572
- JEKEL, TODD B., ROBERT A. GANSLER, DOUGLAS T. REINDL, Simulation of Source Energy Utilization and Emissions for HVAC Systems 39
- JEON, CHANG DUK, JINHO LEE, Local Heat Transfer Characteristics of Louvered Plate Fin Surfaces 338
- JETER, S.M., C.C. PASCUAL, J.H. STROMBERGER, S.I. ABDEL-KHALIK, Validation of EHD-Enhanced Nucleate Boiling Correlation 326
- JIANG, YI, XUZHONG QIN, YINGXIN ZHU, Optimization of Hydraulic Conditions in District Heating Networks 270
- JIN, HUI, MAHADEVAN RAMAMOORTHY, ANDREW D. CHIASSON, JEFFREY D. SPITLER, Optimal Sizing of Hybrid Ground-Source Heat Pump Systems that Use a Cooling Pond as a Supplemental Heat Rejecter—A System Simulation Approach 26

K

- KAMIMURA, KAZUYUKI, MASATO KASAHARA, TAKANORI YAMAZAKI, YOSHIKI KUZUU, YUKIHIRO HASHIMOTO, TADAHICO MATSUBA, SHIGERU KUROSU, Stability Analysis and Tuning of PID Controller in VAV Systems 285
- KAMIMURA, KAZUYUKI, XIANGYANG CHEN, Vote Method of Deciding Supply Air Temperature Setpoint for VAV Air-Conditioning System 82
- KASAHARA, MASATO, TAKANORI YAMAZAKI, YOSHIKI KUZUU, YUKIHIRO HASHIMOTO, KAZUYUKI KAMIMURA, TADAHICO MATSUBA, SHIGERU KUROSU, Stability Analysis and Tuning of PID Controller in VAV Systems 285
- KASZA, KEN E., KANETOSHI HAYASHI, Ice Slurry Cooling Research: Effects of Microscale Ice Particle Characteristics and Freezing-Point-Depressant Additives on Ice Slurry Fluidity 346
- KATO, SHINSUKE, SHUZO MURAKAMI, KAZUhide ITO, AKIRA YAMAMOTO, YASUSHI KONDO, JUN-ICHI FUJIMURA, Distribution of Chemical Pollutants in a Room Based on CFD Simulation Coupled with Emission/Sorption Analysis 812

- KAVANAUGH, STEPHEN P., SALLY A. MCINERNEY, Energy Use of Pumping Options for Ground-Source Heat Pumps 589
- KIM, MAN-HOE, CLARK W. BULLARD, A Simple Approach to Thermal Performance Analysis of Small Hermetic Reciprocating Compressors 109
- KIM, YOUNGIL, KISEOB LEE, HYUNGHEE CHO, Experimental Study of Flow Characteristics of a Diffuser for Under Floor Air-Conditioning System 230
- KINTNER-MEYER, MICHAEL, MARTIN J. BURNS, Utility/Customer Information Services, Part 1 Descriptions of Services and Discussion on Interoperability for Service Implementation 306
- KINTNER-MEYER, MICHAEL, MARTIN J. BURNS, Utility/Customer Information Services, Part 2 Data Object Modeling and Mapping to BACnet™ 314
- KOENIG, MICHAEL S., KHALED GOMMED, GERSHON GROSSMAN, Numerical Study of Absorption in a Laminar Falling Film of Ammonia-Water 453
- KOLOKOTRONI, MARIA, Night Ventilation Cooling of Office Buildings Parametric Analyses of Conceptual Energy Impacts 479
- KOLOKOTRONI, MARIA, WEIZHONG XIANG, SAVVAS A. TASSOU, Heating of Church Buildings of Historic Importance with Direct Gas-Fired Heating Systems 357
- KONDO, YASUSHI, SHUZO MURAKAMI, SHINSUKE KATO, KAZUhide ITO, AKIRA YAMAMOTO, JUN-ICHI FUJIMURA, Distribution of Chemical Pollutants in a Room Based on CFD Simulation Coupled with Emission/Sorption Analysis 812
- KOSNY, JAN, Advances in Residential Wall Technologies—Simple Ways of Decreasing the Whole Building Energy Consumption 421
- KUEHN, THOMAS H., KEVIN A. JANNI, WALTER J. MAIER, CHING-HSU YANG, BARRY B. BRIDGES, DONALD VESLEY, MELISSA A. NELLIS, Evaluation of Biofiltration of Air—An Innovative Air Pollution Control Technology 198
- KÜNZEL, HARTWIG M., HANS-PETER LEIMER, Performance of Innovative Vapor Retarders Under Summer Conditions 417
- KUROSU, SHIGERU, MASATO KASAHARA, TAKANORI YAMAZAKI, YOSHIKI KUZUU, YUKIHIRO HASHIMOTO, KAZUYUKI KAMIMURA, TADAHICO MATSUBA, Stability Analysis and Tuning of PID Controller in VAV Systems 285
- KUZUU, YOSHIKI, MASATO KASAHARA, TAKANORI YAMAZAKI, YUKIHIRO HASHIMOTO, KAZUYUKI KAMIMURA, TADAHICO MATSUBA, SHIGERU KUROSU, Stability Analysis and Tuning of PID Controller in VAV Systems 285

L

- LAMA, PATRICK J., How to Use the New Codes in Moderate Seismic Areas 769

LEE, JINHO, CHANG DUK JEON, Local Heat Transfer Characteristics of Louvered Plate Fin Surfaces.....	338
LEE, KISEOB, YOUNGIL KIM, HYUNGHEE CHO, Experimental Study of Flow Characteristics of a Diffuser for Under Floor Air-Conditioning System.....	230
LEE, SHUN-FU, S.A. SHERIF, Second Law Analysis of Various Double-Effect Lithium Bromide/Water Absorption Chillers.....	664
LEE, SHUN-FU, S.A. SHERIF, Thermoeconomic Analysis of Absorption Heat Transformers.....	652
LEE, SHUN-FU, S.A. SHERIF, Thermoeconomic Analysis of Absorption Systems for Cooling.....	629
LEIMER, HANS-PETER, HARTWIG M. KÜNZEL, Performance of Innovative Vapor Retarders Under Summer Conditions.....	417
LIN, Y. EASON, YANG GAO, PING ZHOU, RADISAV D. VIDIC, JANET E. STOUT, Efficacy of DBNPA Against Legionella pneumophila: Experimental Results in a Model Water System.....	184
LINDHOLM, TORBJÖRN, JOHNNY V. ANDERSSON, Desiccant Cooling for Swedish Office Buildings.....	490
LIU, SUIBING, QI, ZHOU, A New Technique to Improve the Efficiency of Wet Cooling Tower.....	102
LOUGHEED, GARY D., CAM MCCARTNEY, BRUCE C. TABER, Sprinklered Mercantile Fires.....	730
LOUGHEED, GARY D., GEORGE V. HADJISOPHOCLEOUS, The Smoke Hazard from a Fire in High Spaces.....	720
LOZANO, MIGUEL ANGEL, MIGUEL ANGEL FERRER, ROBERT TOZER, Thermoeconomics Applied to Air-Conditioning Systems.....	638
LUCAS, FRANCK, FRANÇOIS GARDE, HARRY BOYER, JEAN BRAU, Multiple Model Approach of a Residential Heat Pump for Integration in a Building Thermal Simulation Code and Comparison with Experimental Results.....	14

M

MAIER, WALTER J., KEVIN A. JANNI, THOMAS H. KUEHN, CHING-HSU YANG, BARRY B. BRIDGES, DONALD VESLEY, MELISSA A. NELLIS, Evaluation of Biofiltration of Air—An Innovative Air Pollution Control Technology.....	198
MARCHIO, DOMINIQUE, PASCAL STABAT, MATTHIEU ORPHELIN, Pre-Design and Design Tools for Evaporative Cooling.....	501
MARTIN, DAVID P., JOHN V. RINGWOOD, JAMES J. GRANT, Spatial Homogeneity of Air in a Mushroom Tunnel Single vs. Boost Duct Air Distribution Systems.....	275
MATSUBA, TADAHICO, MASATO KASAHARA, TAKANORI YAMAZAKI, YOSHIKI KUZUU, YUKIHIRO HASHIMOTO, KAZUYUKI KAMIMURA, SHIGERU KUROSU, Stability Analysis and Tuning of PID Controller in VAV Systems.....	285

MCCARTNEY, CAM, GARY D. LOUGHEED, BRUCE C. TABER, Sprinklered Mercantile Fires.....	730
MCINERNEY, SALLY A., STEVE KAVANAUGH, Energy Use of Pumping Options for Ground-Source Heat Pumps.....	589
MCINTOSH, IAN B.D., BYUNG-CHEON AHN, JOHN W. MITCHELL, Model-Based Fault Detection and Diagnosis for Cooling Towers.....	839
MCINTOSH, IAN B.D., CHAD B. DORGAN, CHARLES E. DORGAN, A Descriptive Framework for Cool Storage Operating and Control Strategies.....	93
MEI, VINCE C., RONALD E. DOMITROVIC, WAYNE H. BREWER, FANG C. CHEN, TITU R. DOCTOR, Experimental Study of an R-407C Heat Pump Water Heater.....	224
MEISEL, PAUL W., Static Modeling of Equipment Acted on by Seismic Forces.....	775
MILLET, JEAN-ROBERT, Guidance and Tools for Night and Evaporative Cooling in Office Buildings.....	511
MILLS, FRANK A., Case Study of a Fire Engineering Approach to a Large, Unsprinklered, Naturally Ventilated Atrium Building.....	744
MITCHELL, JOHN W., BYUNG-CHEON AHN, IAN B.D. MCINTOSH, Model-Based Fault Detection and Diagnosis for Cooling Towers.....	839
MORA, RODRIGO, MICHAEL J.M. ENGLISH, ANDREAS K. ATHENITIS, Assessment of Thermal Comfort During Surgical Operations.....	52
MORRIS, DAWN M., B. TERRY BECK, MOHAMMAD H. HOSNI, Experimental Determination of the Effects of Turbulence Intensity on the Performance of Rotating Vane Anemometers.....	215
MUMMA, STANLEY A., CHRISTOPHER L. CONROY, Ceiling Radiant Cooling Panels as a Viable Distributed Parallel Sensible Cooling Technology Integrated with Dedicated Outdoor Air Systems.....	578
MUMMA, STANLEY A., Dedicated Outdoor Air-Dual Wheel System Control Requirements.....	147
MUMMA, STANLEY A., KURT M. SHANK, Selecting the Supply Air Conditions for a Dedicated Outdoor Air System Working in Parallel with Distributed Sensible Cooling Terminal Equipment.....	562
MUMMA, STANLEY A., KURT SHANK, Achieving Dry Outside Air in an Energy-Efficient Manner.....	553
MUMMA, STANLEY A., Overview of Integrating Dedicated Outdoor Air Systems with Parallel Terminal Systems.....	545
MURAKAMI, SHUZO, SHINSUKE KATO, KAZUHIRO ITO, AKIRA YAMAMOTO, YASUSHI KONDO, JUN-ICHI FUJIMURA, Distribution of Chemical Pollutants in a Room Based on CFD Simulation Coupled with Emission/Sorption Analysis.....	812
MUSSER, AMY, An Analysis of Combined CFD and Multizone IAQ Model Assembly Issues.....	371

N

NELLIS, MELISSA A., KEVIN A. JANNI, WALTER J. MAIER, THOMAS H. KUEHN, CHING-HSU YANG, BAR-
--

RY B. BRIDGES, DONALD VESLEY, Evaluation of Biofiltration of Air--An Innovative Air Pollution Control Technology	198
NIXON, JACK L., CHANG W. SOHN, Long-Term Experience with External-Melt Ice-on-Coil Storage Cooling System	532
NONG, GANG, XUDONG YANG, QINGYAN CHEN, JIE ZENG, JIANSHUN ZHANG, CHIA-YU SHAW, Effects of Airflow on VOC Emissions from "Wet" Coating Materials Experimental Measurements and Numerical Simulation	801

O

ORPHELIN, MATTHIEU, PASCAL STABAT, DOMINIQUE MARCHIO, Pre-Design and Design Tools for Evaporative Cooling	501
---	-----

P

PALMITER, LARRY S., PAUL W. FRANCISCO, The Nulling Test A New Measurement Technique for Estimating Duct Leakage in Residential Homes ..	297
PARENT, MICHEL, A Simplified Tool for Assessing the Feasibility of Ground-Source Heat Pump Projects	120
PASCUAL, C.C., J.H. STROMBERGER, S.M. JETER, S.I. ABDEL-KHALIK, Validation of EHD-Enhanced Nucleate Boiling Correlation	326
PETRÁS, DUSAN, Hybrid Heating and Ventilating of Industrial Facilities Connected to District Energy System	390
PIERSON, TOM, DHARAM V. PUNWANI, JAMES BAGLEY, WILLIAM A. RYAN, A Hybrid System for Combustion Turbine Inlet Air Cooling at a Cogeneration Plant in Pasadena, Texas	875
PLETT, E.G., A. BODALAL, J.S. ZHANG, C.Y. SHAW, Correlations Between the Internal Diffusion and Equilibrium Partition Coefficients of Volatile Organic Compounds (VOCs) in Building Materials and the VOC Properties	789
PUNWANI, DHARAM V., TOM PIERSON, JAMES BAGLEY, WILLIAM A. RYAN, A Hybrid System for Combustion Turbine Inlet Air Cooling at a Cogeneration Plant in Pasadena, Texas	875

Q

QIN, XUZHONG, YI JIANG, YINGXIN ZHU, Optimization of Hydraulic Conditions in District Heating Networks	270
--	-----

R

RAFFERTY, KEVIN, Dual Set Point Control of Open-Loop Heat Pump Systems	600
--	-----

RAMAMOORTHY, MAHADEVAN, HUI JIN, ANDREW D. CHIASSON, JEFFREY D. SPITLER, Optimal Sizing of Hybrid Ground-Source Heat Pump Systems that Use a Cooling Pond as a Supplemental Heat Rejecter--A System Simulation Approach	26
REINDL, DOUGLAS T., ROBERT A. GANSLER, TODD B. JEKEL, Simulation of Source Energy Utilization and Emissions for HVAC Systems	39
RINGWOOD, JOHN V., DAVID P. MARTIN, JAMES J. GRANT, Spatial Homogeneity of Air in a Mushroom Tunnel Single vs. Boost Duct Air Distribution Systems	275
RISHEL, JAMES B. (BURT), The Measurement of Energy Consumption in kW Per Ton for Central Chilled Water Plants	397
ROHATGI, NGOC DUNG T., TONYA T. WHITMIRE, ROBERT W. CLARK, Chloride, Fluoride, and Acidity Measurements in Refrigerants	141
RYAN, WILLIAM A., DHARAM V. PUNWANI, TOM PIERSON, JAMES BAGLEY, A Hybrid System for Combustion Turbine Inlet Air Cooling at a Cogeneration Plant in Pasadena, Texas	875

S

SAKR, WAFA, FARIBORZ HAGHIGHAT, LARS GUNNARSEN, MICHAEL VON GRUNAU, The Impact of Combinations of Building Materials and Intermittent Ventilation on Perceived Air Quality	821
SHANK, KURT M., STANLEY A. MUMMA, Selecting the Supply Air Conditions for a Dedicated Outdoor Air System Working in Parallel with Distributed Sensible Cooling Terminal Equipment	562
SHANK, KURT, STANLEY A. MUMMA, Achieving Dry Outside Air in an Energy-Efficient Manner.	553
SHAW, C.Y., A. BODALAL, J.S. ZHANG, E.G. PLETT, Correlations Between the Internal Diffusion and Equilibrium Partition Coefficients of Volatile Organic Compounds (VOCs) in Building Materials and the VOC Properties	789
SHAW, CHIA-YU, XUDONG YANG, QINGYAN CHEN, JIE ZENG, JIANSHUN ZHANG, GANG NONG, Effects of Airflow on VOC Emissions from "Wet" Coating Materials Experimental Measurements and Numerical Simulation	801
SHERIF, S.A., SHUN-FU LEE, Second Law Analysis of Various Double-Effect Lithium Bromide/Water Absorption Chillers	664
SHERIF, S.A., SHUN-FU LEE, Thermoeconomic Analysis of Absorption Heat Transformers	652
SHERIF, S.A., SHUN-FU LEE, Thermoeconomic Analysis of Absorption Systems for Cooling	629
SIMMONS, ROBERT E., Maneuvering Through the Maze of Seismic Building Codes and Guides	755
SINCLAIR, RAY, CFD Simulation in Atrium Smoke Management System Design	711
SNOUFFER, TODD, STEPHEN J. TREADO, Measurement Considerations for the Determination of Central Plant Efficiency	401

SOHN, CHANG W., JACK L. NIXON, Long-Term Experience with External-Melt Ice-on-Coil Storage Cooling System	532
SPITLER, JEFFREY D., CENK YAVUZTURK, Field Validation of a Short Time Step Model for Vertical Ground-Loop Heat Exchangers	618
SPITLER, JEFFREY D., MAHADEVAN RAMAMOORTHY, HUI JIN, ANDREW D. CHIASSON, Optimal Sizing of Hybrid Ground-Source Heat Pump Systems that Use a Cooling Pond as a Supplemental Heat Rejecter—A System Simulation Approach	26
STABAT, PASCAL, DOMINIQUE MARCHIO, MATTHIEU ORPHELIN, Pre-Design and Design Tools for Evaporative Cooling	501
STACHNIK, MICHEL, THERESA A. WESTON, JAMES WAGGONER, Development of a Textured Spun-Bonded Polyolefin Water Barrier for Stucco and EIFS	433
STEVENS, JAMES W., Effect of 1997 Handbook Summer Design Temperature Specifications on Enthalpy and Humidity Ratio	178
STEWART, WILLIAM E., JR., Condensation and Icing in Gas Turbine Systems Inlet Air Temperature and Humidity Limits	887
STOUT, JANET E., YANG GAO, PING ZHOU, Y. EASON LIN, RADISAV D. VIDIC, Efficacy of DBNPA Against <i>Legionella pneumophila</i> : Experimental Results in a Model Water System	184
STRAUBE, J.F., J.P. DEGRAUW, Indoor Air Quality and Hygroscopically Active Materials	444
STROMBERGER, J.H., C.C. PASCUAL, S.M. JETER, S.I. ABDEL-KHALIK, Validation of EHD-Enhanced Nucleate Boiling Correlation	326

T

TABER, BRUCE C., GARY D. LOUGHEED, CAM MCCARTNEY, Sprinklered Mercantile Fires	730
TAKADA, S., T. UMENO, S. HOKOI, Prediction of Skin and Clothing Temperatures Under Thermal Transient Considering Moisture Accumulation in Clothing	71
TASSOU, SAVVAS A., WEIZHONG XIANG, MARIA KOLOKOTRONI, Heating of Church Buildings of Historic Importance with Direct Gas-Fired Heating Systems	357
THOME, JOHN R., SERGIO CASCIARO, Thermal Performance of Flooded Evaporators, Part 1: Review of Boiling Heat Transfer Studies	903
THOME, JOHN R., SERGIO CASCIARO, Thermal Performance of Flooded Evaporators, Part 2: Review of Void Fraction, Two-Phase Pressure Drop, and Flow Pattern Studies	919
TOZER, ROBERT, MIGUEL ANGEL FERRER, MIGUEL ANGEL LOZANO, Thermoeconomics Applied to Air-Conditioning Systems	638
TREADO, STEPHEN J., TODD SNOUFFER, Measurement Considerations for the Determination of Central Plant Efficiency	401

TSENG, CHING-CHIA (THOMAS), D. YOGI GOSWAMI, Effect of Tilt Angle and Temperature Difference on Solar Heat Gain Coefficient Measurement of Fenestration System	684
--	-----

U

UMENO, T., S. HOKOI, S. TAKADA, Prediction of Skin and Clothing Temperatures Under Thermal Transient Considering Moisture Accumulation in Clothing	71
--	----

V

VAEZI-NEJAD, HOSSEIN, JOHN M. HOUSE, J. MICHAEL WHITCOMB, An Expert Rule Set for Fault Detection in Air-Handling Units	858
VESLEY, DONALD, KEVIN A. JANNI, WALTER J. MAIER, THOMAS H. KUEHN, CHING-HSU YANG, BARRY B. BRIDGES, MELISSA A. NELLIS, Evaluation of Biofiltration of Air—An Innovative Air Pollution Control Technology	198
VIDIC, RADISAV D., YANG GAO, PING ZHOU, Y. EASON LIN, JANET E. STOUT, Efficacy of DBNPA Against <i>Legionella pneumophila</i> : Experimental Results in a Model Water System	184
VON GRUNAU, MICHAEL, FARIBORZ HAGHIGHAT, WAFA SAKR, LARS GUNNARSEN, The Impact of Combinations of Building Materials and Intermittent Ventilation on Perceived Air Quality	821

W

WAGGONER, JAMES, THERESA A. WESTON, MICHEL STACHNIK, Development of a Textured Spun-Bonded Polyolefin Water Barrier for Stucco and EIFS	433
WALENTA, CLAYTON D., DONALD L. FENTON, KIRBY S. CHAPMAN, Forced Dispersion of Ammonia Plumes into the Atmosphere	237
WATSON, RICHARD D., KIRBY S. CHAPMAN, JAMIE E. HOWELL, Radiant Panel Surface Temperature Over a Range of Ambient Temperatures	383
WATSON, RICHARD D., KIRBY S. CHAPMAN, LINDA WIGGINGTON, Impact Of Dual Utility Selection on 305 m ² (1000 ft ²) Residences	365
WESTON, THERESA A., MICHEL STACHNIK, JAMES WAGGONER, Development of a Textured Spun-Bonded Polyolefin Water Barrier for Stucco and EIFS	433
WHITCOMB, J. MICHAEL, JOHN M. HOUSE, HOSSEIN VAEZI-NEJAD, An Expert Rule Set for Fault Detection in Air-Handling Units	858
WHITMIRE, TONYA T., NGOC DUNG T. ROHATGI, ROBERT W. CLARK, Chloride, Fluoride, and Acidity Measurements in Refrigerants	141

- WIGGINGTON, LINDA, RICHARD D. WATSON, KIRBY S. CHAPMAN, Impact Of Dual Utility Selection on 305 m² (1000 ft²) Residences 365
- WRIGHT, JOHN L., A Simplified Analysis of Radiant Heat Loss Through Projecting Fenestration Products 700

X

- XIANG, WEIZHONG, SAVVAS A. TASSOU, MARIA KOLOKOTRONI, Heating of Church Buildings of Historic Importance with Direct Gas-Fired Heating Systems. 357

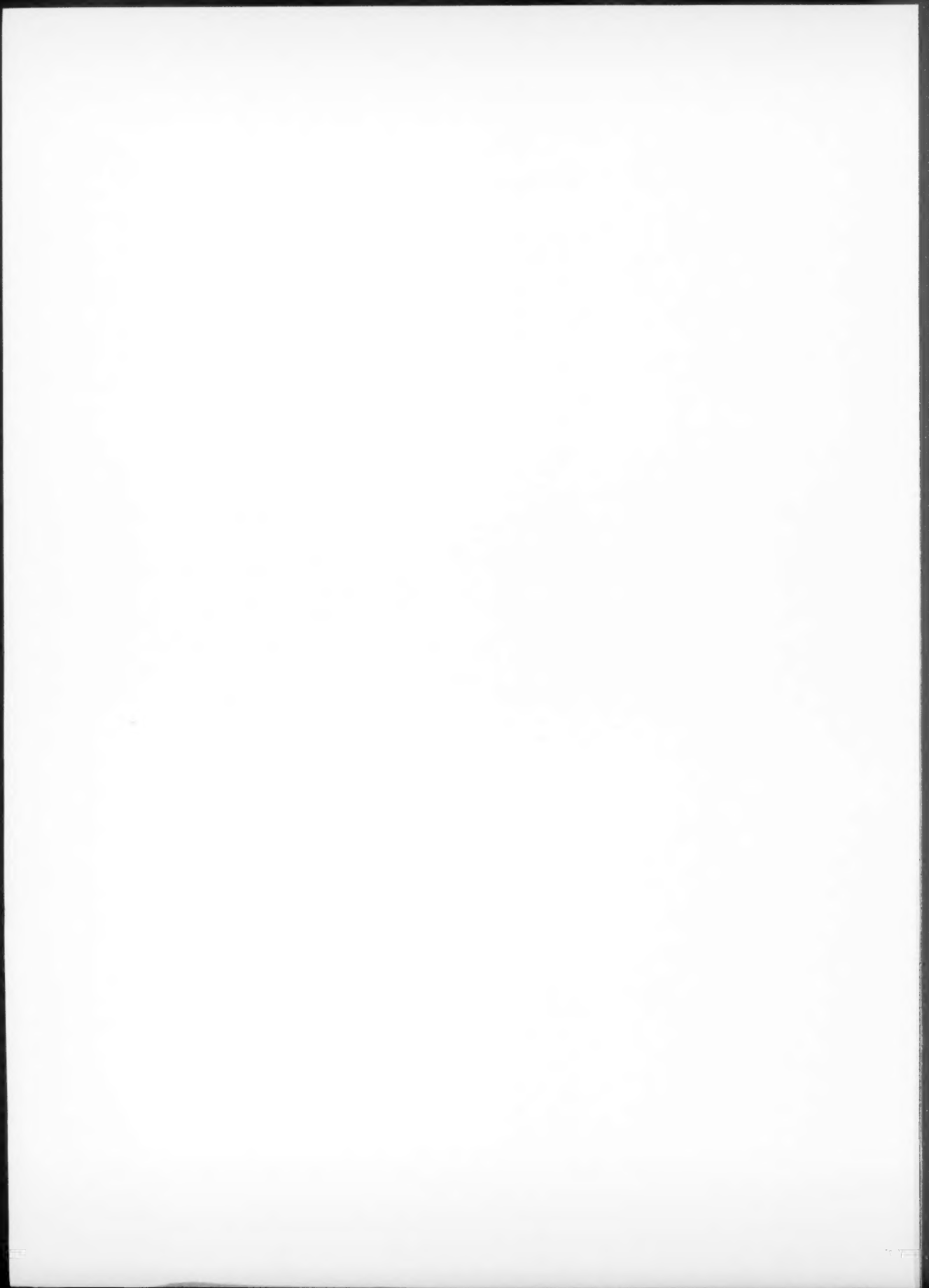
Y

- YAMAMOTO, AKIRA, SHUZO MURAKAMI, SHINSUKE KATO, KAZUhide ITO, YASUSHI KONDO, JUN-ICHI FUJIMURA, Distribution of Chemical Pollutants in a Room Based on CFD Simulation Coupled with Emission/Sorption Analysis 812
- YAMAZAKI, TAKANORI, MASATO KASAHARA, YOSHIAKI KUZUU, YUKIHIRO HASHIMOTO, KAZUYUKI KAMIMURA, TADAHIKO MATSUBA, SHIGERU KUROSU, Stability Analysis and Tuning of PID Controller in VAV Systems. 285
- YANG, CHING-HSU, KEVIN A. JANNI, WALTER J. MAIER, THOMAS H. KUEHN, BARRY B. BRIDGES, DONALD VESLEY, MELISSA A. NELLIS, Evaluation of Biofiltration of Air—An Innovative Air Pollution Control Technology 198
- YANG, XUDONG, QINGYAN CHEN, JIE ZENG, JIANSHUN ZHANG, GANG NONG, CHIA-YU SHAW, Effects of Airflow on VOC Emissions from "Wet" Coating Materials: Experimental Measurements and Numerical Simulation 801
- YANG, YIMING, MANXI HOU, Heat and Mass Transfer Properties of Zeolite 13X-H₂O Adsorption Reactor 248

- YAO, B., W.K. CHOW, The Potential Application of Water Mist Systems for Fire Protection in Atria 171
- YAVUZTURK, CENK, JEFFREY D. SPITLER, Field Validation of a Short Time Step Model for Vertical Ground-Loop Heat Exchangers 618
- YUAN, Z., K.E. HEROLD, Surface Tension of Aqueous Lithium Bromide with Controlled Vapor Concentration of 2-Ethyl-Hexanol. 463

Z

- ZENG, JIE, XUDONG YANG, QINGYAN CHEN, JIANSHUN ZHANG, GANG NONG, CHIA-YU SHAW, Effects of Airflow on VOC Emissions from "Wet" Coating Materials: Experimental Measurements and Numerical Simulation 801
- ZHANG, J.S., A. BODALAL, E.G. PLETT, C.Y. SHAW, Correlations Between the Internal Diffusion and Equilibrium Partition Coefficients of Volatile Organic Compounds (VOCs) in Building Materials and the VOC Properties. 789
- ZHANG, JIANSHUN, XUDONG YANG, QINGYAN CHEN, JIE ZENG, GANG NONG, CHIA-YU SHAW, Effects of Airflow on VOC Emissions from "Wet" Coating Materials: Experimental Measurements and Numerical Simulation 801
- ZHAO, HONG-ZUO, LEI ZHAO, Temperature Efficiency of Rooms with Displacement Ventilation 64
- ZHAO, LEI, HONG-ZUO ZHAO, Temperature Efficiency of Rooms with Displacement Ventilation 64
- ZHOU, PING, YANG GAO, Y. EASON LIN, RADISAV D. VIDIC, JANET E. STOUT, Efficacy of DBNPA Against Legionella pneumophila: Experimental Results in a Model Water System 184
- ZHOU, QI, SUIBING, LIU, A New Technique to Improve the Efficiency of Wet Cooling Tower 102
- ZHU, YINGXIN, XUZHONG QIN, YI JIANG, Optimization of Hydraulic Conditions in District Heating Networks 270



Index of Technical and Symposium Papers

Vol. 107, Part 2

TITLES

A

- Air Crossover in Rotary Wheels Used for Air-to-Air Heat and Moisture Recovery, WEI SHANG, MAURY WAWRYK, ROBERT W. BESANT 72
- Air-to-Air Energy Exchanger Test Facility for Mass and Energy Transfer Performance, EPHRAIM M. SPARROW, JOHN P. ABRAHAM, GERALD L. MARTIN, JIMMY C. TONG 450
- Analysis of a Medium-Temperature Secondary Loop Refrigerating System, W. TRAVIS HORTON, ECKHARD A. GROLL 459
- Assessment of Refrigerant Heat Transfer, Pressure Drop, and Void Fraction Effects in Microfin Tubes, An, T.A. NEWELL, R.K. SHAH 143

C

- CFD Simulation of Turbulent Combustion and Mixing Processes Upstream of Desiccant Wheel, J.L. NIU, L.W. CHUK 517
- Contribution of Internal Heat Exchanger to Transcritical R-744 Cycle Performance, D.E. BOEWE, CLARK W. BULLARD, J.M. YIN, P.S. HRNJAK 189

D

- Defrost Issues in Indirectly Refrigerated Display Cases, P.S. HMJAK, Y. MAO 466
- Design and Modelling of New Egg-crate Type Forced Flow Evaporators in Domestic Refrigerators, P.K. BANSAL, M.W. BROWNE, T. WICH, J. CHEN 204
- Design of Compressor Impellers for Water as a Refrigerant, NORBERT MÜLLER 214
- Desuperheater Heat Recovery Hot Water Heating Systems in Subtropics: Using Water Cooling Towers to Extract Heat from Ambient Air as Heat Source, K.X. TAN, S.M. DENG 608
- Determination of the Divergence of Calculation Methods for Heat Gain through Walls, S. CHIRATTANANON, A. RAJAPAKSE 223

E

- Economics of Absorption Chillers Powered by Low-Grade Heat with, and without, Vortex-Induced Pres-

sure Reduction in the Generator, SOLOMON S. FINEBLUM 59

- Effect of a Successively Variable Louver Angle on the Air-Side Performance of Fin-and-Tube Heat Exchangers, MIN-SHENG LIU, JIN-SHENG LEU, RUEY-JONG SHYU, CHI-CHUAN WANG 510
- Effect of Fin Staging On Frost/Defrost Performance of a Two-Row Heat Pump Evaporator at Standard Test Conditions, RICHARD J. WATTERS, DENNIS L. O'NEAL, JIANXIN YANG 240
- Effect of Fin Staging on Frost/Defrost Performance of a Two-Row Heat Pump Evaporator Under Heavy Frosting Conditions, RICHARD J. WATTERS, DENNIS L. O'NEAL, JIANXIN YANG 250
- Efficiencies of an 11.2 kW Variable Speed Motor and Drive, XINGSHUN GAO, SALLY A. MCINERNEY, STEPHEN P. KAVANAUGH 259
- Estimating Food Service Loads and Profiles, VERNON A. SMITH, DONALD R. FISHER 733
- Energy Wheel Effectiveness Evaluation, Part 1: Outlet Airflow Property Distributions Adjacent to an Energy Wheel, WEI SHANG, ROBERT W. BESANT 266
- Energy Wheel Effectiveness Evaluation, Part II: Testing and Monitoring Energy Wheels in HVAC Applications, WEI SHANG, ROBERT W. BESANT 275
- Experimental Study of Convection Heat Transfer of a Body Disturbed by Local Air Flow, An, HIROSHI HOMMA 406
- Experimental Testing and Modeling of a Dual-Fired LiBr-H₂O Absorption Chiller, TOM A. GEE, JIMING CAO, JAMES A. MATHIAS, RICHARD N. CHRISTIANSEN 3
- Experimental Validation of Tunnel Ventilation System Under Emergency Operation, K.H. YANG, S.K. LEE 84
- Extended Insight Into the Metastable Liquid Region Behavior in an Adiabatic Capillary Tube, R.R. BITTLE, J.A. CARTER, J.V. OLIVER 281

F

- Flooded Boiling of Ammonia with Miscible Oil Outside a Horizontal Plain Tube, J.X. ZHENG, G.P. JIN, M.-C. CHYU, Z.H. AYUB 298
- Fresh Air Moisture Control with a Water-Source Heat Pump and Enthalpy Recovery System, R.E. DOMITROVIC, B.D. BRAXTON, F.C. CHEN, W.S. JOHNSON, D.R. DINSE 494

H

- Heat Transfer Through a Composite Wall with Enclosed Spaces: A Practical Two-Dimensional Analysis

Approach, MOHAMED A. ANTAR, LINDON C. THOMAS..... 318

High Temperature Properties of Moist Air, H.F. NELSON, H.J. SAUER, JR., XINAGHONG HUANG 780

History of Testing Heat Insulators at the National Institute of Standards and Technology, A, ROBERT R. ZARR..... 661

History of NIST's Refrigerants Program: I. Zeotropic Mixture Cycles and Heat Transfer, The, DAVID A. DID-ION 688

History of NIST's Refrigerants Program: II. Thermophysical Properties Research, MARK O. MCLINDEN..... 699

I

Impact of Design Simplicity on the Economics of Geothermal Heat Pumps, STEPHEN KAVANAUGH 481

Impact of Safety Factors on Pump Performance and Selection: Case Study, A Methodology for Correcting Pump Oversizing, The, D. SCOTT FISHER 584

Inaccuracies in Standard Meteorological Low Speed Wind Data, GEOFF LEVERMORE, CHRISTOPHER SANDERS, JONATHAN DEWSBURY, ALAN GADIAN, PATRICK LAYCOCK..... 429

Indoor Environmental Control: Review of Current Recommendations and Survey of Conditions at a Natural History Museum, J.R. AULT, D.T. REINDL, S.A. KLEIN, J. GUAY..... 325

Investigation of Refrigerant Void Fraction in Horizontal, Microfin Tubes, An, D.A. YASHAR, M.J. WILSON, H.R. KOPKE, D.M. GRAHAM, J.C. CHATO, T.A. NEWELL 173

Interferometric Study of Free Convection at a Window Glazing with a Heated Venetian Blind, N. DUARTE, D. NAYLOR, P.H. OOSTHUIZEN, S.J. HARRISON 390

M

Measurement of Two-Dimensional Air Velocities in a Full-Scale Room Using Particle Image Velocimetry, LINGYING ZHAO, YUANHUI ZHANG, XINLEI WANG, GERALD L. RISKOWSKI, LESLIE L. CHRISTIANSON 434

Measuring Principles for the Determination of Ice Concentration in Ice Slurry, TORBEN M. HANSEN, MICHAEL KAUFFELD 336

Method of Test to Obtain Diffuser Data for CFD Modeling of Room Airflow, A, JELENA SREBRIC, QUINGYAN CHEN 108

Multistage Optimal Operating Strategies for HVAC Systems, M. ZAHEER-UDDIN, G.R. ZHENG 346

N

Natural Convection Effects in Three-Dimensional Window Frames with Internal Cavities, ARLID GUSTAVSEN, BRENT T. GRIFFITH, DARIUSH ARASTEH 527

NBS Research and ASHRAE's 90 Series Standards, JIM L. HELDENBRAND..... 672

New Refrigerants for Applied Heat Pumps, MICHAEL H. HUGES..... 613

Novel Total Heat Exchanger with Little Odor Transfer Using Ion Exchange Resin as a Desiccant, A, HIROSHI OKANO, HIROSHI TANAKA, TSUTOMU HIROSE, HIROSHI FUNATO, SHU ISHIHARA 66

Numerical Analysis for Optimizing Flow Field in Charging SMIF Pod by Inert Gas, MING-TSUN KE, YONG-REN ZHENG, SIH-LI CHEN, JIA-LEI YU 353

O

Operating Characteristics of Five Stratified Chilled Water Thermal Storage Tanks, WILLIAM E. STEWART..... 12

Oversized Pumps—A Look at Practical Field Experiences, SHAWN K. MANSFIELD..... 573

P

Parametric Study of Charging Inlet Diffuser Performance in Stratified Chilled Water Storage Tanks with Rad Diffusers: Part 1—Model Development and Validation, WILLIAM P. BAHNFLETH, A. MUSSER..... 22

Parametric Study of Charging Inlet Diffuser Performance in Stratified Chilled Water Storage Tanks with Rad Diffusers: Part 2—Dimensional Analysis, Parametric Simulations and Simplified Model Development, WILLIAM P. BAHNFLETH, A. MUSSER..... 41

Particle Separation Efficiency of a Uniflow Deduster with Different Types of Dust, YUANHUI ZHANG, XINLEI WANG, GERALD L. RISKOWSKI, L.L. CHRISTIANSON, STEVE E. FORD 93

Practical Device for Surface Tension Measurement in Volatile Fluids, A, P.A. FEENSTRA, R.L. JUDD, D.S. WEAVER..... 117

Psychrometrics in the Supersaturated Frost Zone, S.A. SHERIF, N.K. AL-MUTAWA, K. BILEN, P.J. MAGO, R.S. THEN 753

R

- Rating the Condensation Potential of Windows: Results from Testing and Simulation, STEPHEN CARPENTER, MORGAN HANAM 550
- Reasons, Results, and Remedies for Pump Safety Factors Overuse, ANTHONY EGAN 559
- Refrigerant Concentrations in Motor Vehicle Passenger Compartments, JAMES J. JETTER, REYNALDO FORTE, FRANCIS R. DELAFIELD 99
- Relative Humidity and Temperature Measurements and Predictions in Supermarkets, L. ROSARIO, R. H. HOWELL 415
- Results of the HERS BESTEST on an Energy Simulation Computer Program, K. H. HADDAD, I. BEAUSOLEIL-MORRISON 713
- Role of the National Institute of Standards and Technology in Development of Energy Calculation Programs, The, EUGENE STAMPER 684

S

- Search for High Temperature Experimental Psychrometric Data, The, H.J. SAUER, JR., H.F. NELSON, XIANGHONG HUANG 768
- Selecting the Design Entering Water Temperature for Vertical Geothermal Heat Pumps in Cooling-Dominated Applications, JOHN A. SHONDER, JEFF THORNTON, PATRICK HUGHES 475
- Sensitivity Analysis of Energy Simulation by Building Type, MARIA MOTTILLO 722
- Simulation Study on the Energy Performance of Photovoltaic Roofs, A, H. YANG, Z. ZHU, J. BURNETT, L. LU 129
- Specification of Water Wells, KEVIN RAFFERTY ... 487
- Study on Heat Supply System Using Underground Water Tank for Thermal Storage, H. NANAOKA, S. HOKOI, H. NAGAI, M. MATSUMOTO 593
- Survey of Reliability and Availability Information for Power Distribution, Power Generation, and HVAC Components for Commercial, Industrial, and Utility Installations, PEYTON S. HALE, JR., ROBERT G. ARNO 360

T

- Test Apparatus and Method to Rate the Mixing Performance of Air Mixers, A, KEITH D. ROBINSON 136
- Test of an Earth-Coupled Heat Pump with Aboveground Water Storage, ERIC W. SODERBERG, JAMES W. LEACH 600
- Three-Dimensional Conjugate CFD Simulations of Internal Window Frame Cavities Validated Using IR Thermography, ARILD GUSTAVSEN, BRENT T. GRIFFITH, DARIUSH ARASTEH 538

- Three-Dimensional Thermal-Hydraulic Analysis in Convex Louver Finned-Tube Heat Exchangers, JIIN-YUH JANG, KUO-PIN SHIEH, HERCHANG AY 503

U

- Ultrasonic Measurement in the Palm of Your Hand, PETER M. DOWNING 445

V

- Validation of Multizone IAQ Modeling of Residential-Scale Buildings: A Review, STEVEN J. EMMERICH 619
- Validation Study of Multizone Air Flow and Contaminant Migration Simulation Programs as Applied to Tall Buildings, A, REBECCA D. UPHAM, GRENVILLE K. YUILL, WILLIAM P. BAHNFLETH 629

W

- Whole-Building Airflow Network Characterization by a Many-Pressure-States (MPS) Technique, PETER R. ARMSTRONG, DONALD L. HADLEY, ROBERT D. STENNER, MICHAEL C. JANUS 645
- Why Did I Buy Such an Oversized Pump?, ROY AHLGREN 566

AUTHORS

A

- ABRAHAM, JOHN P., EPHRAIM M. SPARROW, GERALD L. MARTIN, JIMMY C. TONG, Air-to-Air Energy Exchanger Test Facility for Mass and Energy Transfer Performance 450
- AHLGREN, ROY C., Why Did I Buy Such an Oversized Pump? 566
- AL-MUTAWA, N.K., S.A. SHERIF, K. BILEN, P.J. MAGO, R.S. THEEN, Psychrometrics in the Supersaturated Frost Zone 753
- ANTAR, MOHAMED A., LINDON C. THOMAS, Heat Transfer Through a Composite Wall with Enclosed Spaces: A Practical Two-Dimensional Analysis Approach 318
- ARASTEH, DARIUSH, ARILD GUSTAVSEN, BRENT T. GRIFFITH, Natural Convection Effects in Three-Dimensional Window Frames with Internal Cavities 527

ARASTEH, DARIUSH, ARILD GUSTAVSEN, BRENT T. GRIFFITH, Three-Dimensional Conjugate CFD Simulations of Internal Window Frame Cavities Validated Using IR Thermography	538
ARMSTRONG, PETER R., DONALD L. HADLEY, ROBERT D. STENNER, MICHAEL C. JANUS, Whole-Building Airflow Network Characterization by a Many-Pressure-States (MPS) Technique	645
ARNO, ROBERT G., PEYTON S. HALE, JR., Survey of Reliability and Availability Information for Power Distribution, Power Generation, and HVAC Components for Commercial, Industrial, and Utility Installations	360
AULT, J.R., D.T. REINDL, S.A. KLEIN, J. GUAY, Indoor Environmental Control Review of Current Recommendations and Survey of Conditions at a Natural History Museum	325
AY, HERCHANG, JIIN-YUH JANG, KUO-PIN SHIEH, 3-D Thermal-Hydraulic Analysis in Convex Louver Finned-Tube Heat Exchangers	503
AYUB, Z.H., J.X. ZHENG, G.P. JIN, M.-C. CHYU, Flooded Boiling of Ammonia with Miscible Oil Outside a Horizontal Plain Tube	298

B

BAHNFLETH, WILLIAM P., A. MUSSER, Parametric Study of Charging Inlet Diffuser Performance in Stratified Chilled Water Storage Tanks with Rad Diffusers: Part 1—Model Development and Validation	22
BAHNFLETH, WILLIAM P., A. MUSSER, Parametric Study of Charging Inlet Diffuser Performance in Stratified Chilled Water Storage Tanks with Rad Diffusers: Part 2—Dimensional Analysis, Parametric Simulations and Simplified Model Development	41
BAHNFLETH, WILLIAM P., REBECCA D. UPHAM, GRENVILLE K. YUILL, A Validation Study of Multizone Air Flow and Contaminant Migration Simulation Programs as Applied to Tall Buildings	629
BANSAL, P.K., M.W. BROWNE, T. WICH, J. CHEN, Design and Modelling of New Egg-Crate Type Forced Flow Evaporators in Domestic Refrigerators	204
BEAUSOLEIL-MORRISON, I., K. H. HADDAD, Results of the HERS BESTEST on an Energy Simulation Computer Program	713
BESANT, ROBERT W., WEI SHANG, Energy Wheel Effectiveness Evaluation, Part 1: Outlet Airflow Property Distributions Adjacent to an Energy Wheel	266
BESANT, ROBERT W., WEI SHANG, Energy Wheel Effectiveness Evaluation, Part II: Testing and Monitoring Energy Wheels in HVAC Applications	275
BESANT, ROBERT W., WEI SHANG, MAURY WAWRYK, Air Crossover in Rotary Wheels Used for Air-to-Air Heat and Moisture Recovery	72

BILEN, K., S.A. SHERIF, N.K. AL-MUTAWA, P.J. MAGO, R.S. THEEN, Psychrometrics in the Supersaturated Frost Zone	753
BITTLE, R.R., J.A. CARTER, J.V. OLIVER, Extended Insight Into the Metastable Liquid Region Behavior in an Adiabatic Capillary Tube	281
BOEWE, D.E., CLARK W. BULLARD, J.M. YIN, P.S. HRNJAK, Contribution of Internal Heat Exchanger to Transcritical R-744 Cycle Performance	189
BRAXTON, B.D., R.E. DOMITROVIC, F.C. CHEN, W.S. JOHNSON, D.R. DINSE, Fresh Air Moisture Control with a Water-Source Heat Pump and Enthalpy Recovery System	494
BROWNE, M.W., P.K. BANSAL, T. WICH, J. CHEN, Design and Modelling of New Egg-Crate Type Forced Flow Evaporators in Domestic Refrigerators	204
BULLARD, CLARK W., D.E. BOEWE, J.M. YIN, P.S. HRNJAK, Contribution of Internal Heat Exchanger to Transcritical R-744 Cycle Performance	189
BURNETT, J., Z. ZHU, H. YANG, L. LU, A Simulation Study on the Energy Performance of Photovoltaic Roofs	129

C

CAO, JIMING, TOM A. GEE, JAMES A. MATHIAS, RICHARD N. CHRISTENSEN, Experimental Testing and Modeling of a Dual-fired LiBr-H ₂ O Absorption Chiller	3
CARPENTER, STEPHEN, MORGAN HANAM, Rating the Condensation Potential of Windows: Results from Testing and Simulation	550
CARTER, J.A., R.R. BITTLE, J.V. OLIVER, Extended Insight Into the Metastable Liquid Region Behavior in an Adiabatic Capillary Tube	281
CHATO, J.C., D.M. GRAHAM, H.R. KOPKE, M.J. WILSON, D.A. YASHAR, T.A. NEWELL Investigation of Refrigerant Void Fraction in Horizontal, Microfin Tubes, An	173
CHEN, F.C., R.E. DOMITROVIC, B.D. BRAXTON, W.S. JOHNSON, D.R. DINSE, Fresh Air Moisture Control with a Water-Source Heat Pump and Enthalpy Recovery System	494
CHEN, J., P.K. BANSAL, M.W. BROWNE, T. WICH, Design and Modelling of New Egg-Crate Type Forced Flow Evaporators in Domestic Refrigerators	204
CHEN, SIH-LI, MING-TSUN KE, YONG-REN ZHENG, JIA-LEI YU, Numerical Analysis for Optimizing Flow Field in Charging SMIF Pod by Inert Gas	353
CHEN, QINGYAN, JELENA SREBRIC, A Method of Test to Obtain Diffuser Data for CFD Modeling of Room Airflow	108
CHIRATTANANON, S., A. RAJAPAKSE, Determination of the Divergence of Calculation Methods for Heat Gain through Walls	223
CHRISTENSEN, RICHARD N., TOM A.GEE, JIMING CAO, JAMES A. MATHIAS, Experimental Testing	

and Modeling of a Dual-fired LiBr-H ₂ O Absorption Chiller	3
CHRISTIANSON, LESLIE L., LINGYING ZHAO, YUANHUI ZHANG, XINLEI WANG, GERALD L. RISKOWSKI, Measurement of Two-Dimensional Air Velocities in a Full-Scale Room Using Particle Image Velocimetry	434
CHRISTIANSON, L.L., YUANHUI ZHANG, XINLEI WANG, G.L. RISKOWSKI, S.E. FORD, Particle Separation Efficiency of a Uniflow Deduster with Different Types of Dusts	93
CHYU, M.-C., Z.H. AYUB, J.X. ZHENG, G.P. JIN, Flooded Boiling of Ammonia with Miscible Oil Outside a Horizontal Plain Tube	298
CHUK, L.W., J.L. NIU, CFD Simulation of Turbulent Combustion and Mixing Processes Upstream of Desiccant Wheel	517

D

DELAFIELD, FRANCIS R., JAMES J. JETTER, REYNALDO FORTE, JR., Refrigerant Concentrations in Motor Vehicle Passenger Compartments	99
DENG, S.M., K.X. Tan, Desuperheater Heat Recovery Hot Water Heating Systems in Subtropics Using Water Cooling Towers to Extract Heat from Ambient Air as Heat Source	608
DEWSBURY, JONATHAN, GEOFF LEVERMORE, CHRISTOPHER SANDERS, ALAN GADIAN, PATRICK LAYCOCK, Inaccuracies in Standard Meteorological Low Speed Wind Data	429
DIDION, DAVID A., The History of NIST's Refrigerants Program: I. Zeotropic Mixture Cycles and Heat Transfer	688
DINSE, D.R., R.E. DOMITROVIC, B.D. BRAXTON, F.C. CHEN, W.S. JOHNSON, Fresh Air Moisture Control with a Water-Source Heat Pump and Enthalpy Recovery System	494
DOMITROVIC, R.E., B.D. BRAXTON, F.C. CHEN, W.S. JOHNSON, D.R. DINSE, Fresh Air Moisture Control with a Water-Source Heat Pump and Enthalpy Recovery System	494
DOWNING, PETER M., Ultrasonic Measurement in the Palm of Your Hand	445
DUARTE, N., D. NAYLOR, P.H. OOSTHUIZEN, S.J. HARRISON, Interferometric Study of Free Convection at a Window Glazing with a Heated Venetian Blind	390

E

EGAN, ANTHONY, Reasons, Results and Remedies for Pump Safety Factors Overuse	559
EMMERICH, STEVEN J., Validation of Multizone IAQ Modeling of Residential-Scale Buildings: A Review	619

F

FEENSTRA, P.A., R.L. JUDD, D.S. WEAVER, Practical Device for Surface Tension Measurement in Volatile Fluids, A	117
FINEBLUM, SOLOMON S., Economics of Absorption Chillers Powered By Low-Grade Heat with, and without, Vortex-Induced Pressure Reduction in the Generator	59
FISHER, DONALD R., VERNON A. SMITH, Estimating Food Service Loads and Profiles	733
FISHER, D. SCOTT, The Impact of Safety Factors on Pump Performance and Selection: Case Study, A Methodology for Correcting Pump Oversizing	584
FORD, S.E., YUANHUI ZHANG, XINLEI WANG, G.L. RISKOWSKI, L.L. CHRISTIANSON, Particle Separation Efficiency of a Uniflow Deduster with Different Types of Dusts	93
FORTE, JR., REYNALDO, JAMES J. JETTER, FRANCIS R. DELAFIELD, Refrigerant Concentrations in Motor Vehicle Passenger Compartments	99
FUNATO, HIROSHI, SHU ISHIIHARA, HIROSHI OKANO, HIROSHI TANAKA, TSUTOMU HIROSE, A Novel Total Heat Exchanger with Little Odor Transfer Using Ion Exchange Resin as a Desiccant	66

G

GADIAN, ALAN, GEOFF LEVERMORE, CHRISTOPHER SANDERS, JONATHAN DEWSBURY, PATRICK LAYCOCK, Inaccuracies in Standard Meteorological Low Speed Wind Data	429
GAO, XINGSHUN, SALLY A. MCINERNEY, STEPHEN P. KAVANAUGH, Efficiencies of an 11.2 kW Variable Speed Motor and Drive	259
GEE, TOM A., JIMING CAO, JAMES A. MATHIAS, RICHARD N. CHRISTIANSEN, Experimental Testing and Modeling of a Dual-Fired LiBr-H ₂ O Absorption Chiller	3
GERALD, MARTIN L., EPHRAIM M. SPARROW, JOHN P. ABRAHAM, JIMMY C. TONG, Air-to-Air Energy Exchanger Test Facility for Mass and Energy Transfer Performance	450
GRAHAM, D.M., H.R. KOPKE, M.J. WILSON, D.A. YASHAR, J.C. CHATO, T.A. NEWELL, Investigation of Refrigerant Void Fraction in Horizontal, Microfin Tubes, An	173
GRIFFITH, BRENT T., ARLID GUSTAVSEN, DARIUSH ARASTEH, Natural Convection Effects in Three-Dimensional Window Frames with Internal Cavities	527
GRIFFITH, BRENT T., ARLID GUSTAVSEN, DARIUSH ARASTEH, Three-Dimensional Conjugate CFD Simulations of Internal Window Frame Cavities Validated Using IR Thermography	538

- GROLL, ECKHARD A., W. TRAVIS HORTON, Analysis of a Medium-Temperature Secondary Loop Refrigerating System 459
- GUAY, J., J.R. AULT, D.T. REINDL, S.A. KLEIN, Indoor Environmental Control Review of Current Recommendations and Survey of Conditions at a Natural History Museum 325
- GUSTAVSEN, ARLID, BRENT T. GRIFFITH, DARIUSH ARASTEH, Natural Convection Effects in Three-Dimensional Window Frames with Internal Cavities 527
- GUSTAVSEN, ARLID, BRENT T. GRIFFITH, DARIUSH ARASTEH, Three-Dimensional Conjugate CFD Simulations of Internal Window Frame Cavities Validated Using IR Thermography 538

H

- HADDAD, K. H., I. BEAUSOLEIL-MORRISON, Results of the HERS BESTEST on an Energy Simulation Computer Program 713
- HADLEY, DONALD L., PETER R. ARMSTRONG, ROBERT D. STENNER, MICHAEL C. JANUS, Whole-Building Airflow Network Characterization by a Many-Pressure-States (MPS) Technique 645
- HALE, PEYTON S., ROBERT G. ARNO, Survey of Reliability and Availability Information for Power Distribution, Power Generation, and HVAC Components for Commercial, Industrial, and Utility Installations 360
- HANAM, MORGAN, STEPHEN CARPENTER, Rating the Condensation Potential of Windows: Results from Testing and Simulation 550
- HANSEN, TORBEN M., MICHAEL KAUFFELD, Measuring Principles for the Determination of Ice Concentration in Ice Slurry 336
- HARRISON, S.J., OOSTHUIZEN, P.H., D. NAYLOR, N. DUARTE, Interferometric Study of Free Convection at a Window Glazing with a Heated Venetian Blind 390
- HELDENBRAND, JIM L., NBS Research and ASHRAE's 90 Series Standards 672
- HIROSE, TSUTOMU, HIROSHI OKANO, HIROSHI TANAKA, HIROSHI FUNATO, SHU ISHIHARA, A Novel Total Heat Exchanger with Little Odor Transfer Using Ion Exchange Resin as a Desiccant. 66
- HMJAK, P.S., Y. MAO, Defrost Issues in Indirectly Refrigerated Display Cases 466
- HMJAK, P.S., J.M. YIN, CLARK W. BULLARD, D.E. BOEWE, Contribution of Internal Heat Exchanger to Transcritical R-744 Cycle Performance 189
- HOKOI, S., H. NANAOKA, H. NAGAI, M. MATSUMOTO, Study on Heat Supply System Using Underground Water Tank for Thermal Storage 593
- HOMMA, HIROSHI, An Experimental Study of Convection Heat Transfer of a Body Disturbed by Local Air Flow. 406
- HORTON, W. TRAVIS, ECKHARD A. GROLL, Analysis of a Medium-Temperature Secondary Loop Refrigerating System. 459
- HOWELL, R.H., L. ROSARIO, Relative Humidity and Temperature Measurements and Predictions in Supermarkets. 415
- HUANG, XIANGHONG, H.F. NELSON, H.J. SAUER, High Temperature Properties of Moist Air 780
- HUANG, XIANGHONG, H.J. SAUER, JR., H.F. NELSON, The Search for High Temperature Experimental Psychrometric Data 768
- HUGHES, MICHAEL H., New Refrigerants for Applied Heat Pumps 613
- HUGHES, PATRICK, JOHN A. SHONDER, JEFF THORNTON, Selecting the Design Entering Water Temperature for Vertical Geothermal Heat Pumps in Cooling-Dominated Applications. 475

I

- ISHIHARA, SHU, HIROSHI OKANO, HIROSHI TANAKA, TSUTOMU HIROSE, HIROSHI FUNATO, A Novel Total Heat Exchanger with Little Odor Transfer Using Ion Exchange Resin as a Desiccant 66

J

- JANG, JIIN-YUH, KUO-PIN SHIEH, HERCHANG AY, 3-D Thermal-Hydraulic Analysis in Convex Louver Finned-Tube Heat Exchangers 503
- JANUS, MICHAEL C., ROBERT D. STENNER, DONALD L. HADLEY, PETER R. ARMSTRONG, Whole-Building Airflow Network Characterization by a Many-Pressure-States (MPS) Technique 645
- JETTER, JAMES J., REYNALDO FORTE, JR., FRANCIS R. DELAFIELD, Refrigerant Concentrations in Motor Vehicle Passenger Compartments 99
- JIN, G.P., M.-C. CHYU, Z.H. AYUB, J.X. ZHENG, Flooded Boiling of Ammonia with Miscible Oil Outside a Horizontal Plain Tube. 298
- JOHNSON, W.S., R.E. DOMITROVIC, B.D. BRAXTON, F.C. CHEN, D.R. DINSE, Fresh Air Moisture Control with a Water-Source Heat Pump and Enthalpy Recovery System 494
- JUDD, R.L., P.A. FEENSTRA, D.S. WEAVER, Practical Device for Surface Tension Measurement in Volatile Fluids, A 117

K

- KAUFFELD, MICHAEL, TORBEN M. HANSEN, Measuring Principles for the Determination of Ice Concentration in Ice Slurry 336
- KAVANAUGH, STEPHEN, Impact of Design Simplicity on the Economics of Geothermal Heat Pumps ... 481

KAVANAUGH, STEPHEN P., XINGSHUN GAO, SALLY A. MCINERNY, Efficiencies of an 11.2 kW Variable Speed Motor and Drive	259
KE, MING-TSUN, YONG-REN ZHENG, SIH-LI CHEN, JIA-LEI YU, Numerical Analysis for Optimizing Flow Field in Charging SMIF Pod by Inert Gas.	353
KLEIN, S.A., J.R. AULT, D.T. REINDL, J. GUAY, Indoor Environmental Control Review of Current Recommendations and Survey of Conditions at a Natural History Museum	325
KOPKE, H.R., M.J. WILSON, D.A. YASHAR, D.M. GRAHAM, J.C. CHATO, T.A. NEWELL, Investigation of Refrigerant Void Fraction in Horizontal, Microfin Tubes, An	173

L

LAYCOCK, PATRICK, GEOFF LEVERMORE, CHRISTOPHER SANDERS, JONATHAN DEWSBURY, ALAN GADIAN, Inaccuracies in Standard Meteorological Low Speed Wind Data	429
LEACH, JAMES W., ERIC W. SODERBERG, Test of an Earth-Coupled Heat Pump with Aboveground Water Storage	600
LEE, S. K., K. H. YANG, Experimental Validation of Tunnel Ventilation System Under Emergency Operation	84
LEU, JIN-SHENG, MIN-SHENG LIU, RUEY-JONG SHYU, CHI-CHUAN WANG, Effect of a Successively Variable Louver Angle on the Air-Side Performance of Fin-and-Tube Heat Exchangers	510
LEVERMORE, GEOFF, CHRISTOPHER SANDERS, JONATHAN DEWSBURY, ALAN GADIAN, PATRICK LAYCOCK, Inaccuracies in Standard Meteorological Low Speed Wind Data	429
LIU, MIN-SHENG, JIN-SHENG LEU, RUEY-JONG SHYU, CHI-CHUAN WANG, Effect of a Successively Variable Louver Angle on the Air-Side Performance of Fin-and-Tube Heat Exchangers	510
LU, L. H. YANG, Z. ZHU, J. BURNETTE, A Simulation Study on the Energy Performance of Photovoltaic Roofs	129

M

MAGO, P.J., S.A. SHERIF, N.K. AL-MUTAWA, K. BILEN, R.S. THEN, Psychrometrics in the Supersaturated Frost Zone	753
MANSFIELD, SHAWN K., Oversized Pumps—A Look at Practical Field Experiences	573
MAO, Y., P.S. HMJAK, Defrost Issues in Indirectly Refrigerated Display Cases	466
MARTIN, GERALD L., P. ABRAHAM, JOHN ROW, JIMMY C. TONG, Air-to-Air Energy Exchanger Test Facility for Mass and Energy Transfer Performance ..	450
MATHIAS, JAMES A., TOM A. GEE, JIMING CAO, RICHARD N. CHRISTENSEN, Experimental Testing and Modeling of a Dual-fired Libr-H ₂ O Absorption Chiller	3

MATSUMOTO, M., H. NAGAI, S. HOKOI, H. NANAOKA, Study on Heat Supply System Using Underground Water Tank for Thermal Storage	593
MCINERNY, SALLY A., XINGSHUN GAO, STEPHEN P. KAVANAUGH, Efficiencies of an 11.2 kW Variable Speed Motor and Drive	259
MCLINDEN, MARK O., History of NIST's Refrigerants Program: II. Thermophysical Properties Research	699
MOTTILLO, MARIA, Sensitivity Analysis of Energy Simulation by Building Type	722
MÜLLER, NORBERT, Design of Compressor Impellers for Water as a Refrigerant.	214
MUSSER, A., WILLIAM P. BAHNFLETH, Parametric Study of Charging Inlet Diffuser Performance in Stratified Chilled Water Storage Tanks with Rad Diffusers: Part 1—Model Development and Validation	22
MUSSER, A., WILLIAM P. BAHNFLETH, Parametric Study of Charging Inlet Diffuser Performance in Stratified Chilled Water Storage Tanks with Rad Diffusers: Part 2—Dimensional Analysis, Parametric Simulations and Simplified Model Development	41

N

NAGAI, H., S. HOKOI, H. NANAOKA, M. MATSUMOTO, Study on Heat Supply System Using Underground Water Tank for Thermal Storage	593
NANAOKA, H., S. HOKOI, H. NAGAI, M. MATSUMOTO, Study on Heat Supply System Using Underground Water Tank for Thermal Storage	593
NAYLOR, D., N. DUARTE, P.H. OOSTHUIZEN, S.J. HARRISON, Interferometric Study of Free Convection at a Window Glazing with a Heated Venetian Blind.	390
NELSON, H.F., H.J. SAUER, JR., XIANGHONG HUANG, High Temperature Properties of Moist Air	780
NELSON, H.F., H.J. SAUER, JR., XIANGHONG HUANG, The Search for High Temperature Experimental Psychrometric Data	768
NEWELL, T.A., R.K. SHAH, Assessment of Refrigerant Heat Transfer, Pressure Drop, and Void Fraction Effects in Microfin Tubes, An	143
NEWELL, T.A., J.C. CHATO, D.M. GRAHAM, H.R. KOPKE, M.J. WILSON, D.A. YASHAR, Investigation of Refrigerant Void Fraction in Horizontal, Microfin Tubes, An	173
NIU, J.L., L.W. CHUK, CFD Simulation of Turbulent Combustion and Mixing Processes Upstream of Desiccant Wheel	517

O

OKANO, HIROSHI, HIROSHI TANAKA, TSUTOMU HIROSE, HIROSHI FUNATO, SHU ISHIHARA, A	
---	--

Novel Total Heat Exchanger with Little Odor Transfer Using Ion Exchange Resin as a Desiccant . .	66
OLIVER, J.V., J.A. CARTER, R.R. BITTLE, Extended Insight Into the Metastable Liquid Region Behavior in an Adiabatic Capillary Tube	281
O'NEAL, DENNIS L., RICHARD J. WATTERS, JIANXIAN YANG, Effect of Fin Staging on Frost/Defrost Performance of a Two-Row Heat Pump Evaporator under Heavy Frosting Conditions	250
O'NEAL, DENNIS L., RICHARD J. WATTERS, JIANXIAN YANG, Effect of Fin Staging on Frost/Defrost Performance of a Two-Row Heat Pump Evaporator at Standard Test Conditions	240
OOSTHUIZEN, P.H., D. NAYLOR, N. DUARTE, S.J. HARRISON, Interferometric Study of Free Convection at a Window Glazing with a Heated Venetian Blind	390

R

RAFFERTY, KEVIN, Specification of Water Wells . .	487
RAJAPAKSE, A., S. CHIRATTANANON, Determination of the Divergence of Calculation Methods for Heat Gain through Walls	223
REINDL, D.T., J.R. AULT, S.A. KLEIN, J. GUAY, Indoor Environmental Control Review of Current Recommendations and Survey of Conditions at a Natural History Museum	325
RISKOWSKI, GERALD L., LINGYING ZHAO, YUANHUI ZHANG, XINLEI WANG, LESLIE L. CHRISTIANSON, Measurement of Two-Dimensional Air Velocities in a Full-Scale Room Using Particle Image Velocimetry	434
RISKOWSKI, G.L., YUANHUI ZHANG, XINLEI WANG, L.L. CHRISTIANSON, S.E. FORD, Particle Separation Efficiency of a Uniflow Deduster with Different Types of Dusts	93
ROBINSON, KEITH D., A Test Apparatus and Method to Rate the Mixing Performance of Air Mixers . .	136
ROSARIO, LUIS, RONALD H. HOWELL, Relative Humidity and Temperature Measurements and Predictions in Supermarkets	415

S

SANDERS, CHRISTOPHER, GEOFF LEVERMORE, JONATHAN DEWSBURY, ALAN GADIAN, PATRICK LAYCOCK, Inaccuracies in Standard Meteorological Low Speed Wind Data	429
SAUER, H.J., H.F. NELSON, XIANGHONG HUANG, High Temperature Properties of Moist Air	780

SAUER, H.J., H.F. NELSON, XIANGHONG HUANG, The Search for High Temperature Experimental Psychrometric Data	768
SHAH, R.K., T.A. NEWELL, Assessment of Refrigerant Heat Transfer, Pressure Drop, and Void Fraction Effects in Microfin Tubes, An	143
SHANG, WEI, MAURY WAWRYK, ROBERT W. BESANT, Air Crossover in Rotary Wheels Used for Air-to-Air Heat and Moisture Recovery	72
SHANG, WEI, ROBERT W. BESANT, Energy Wheel Effectiveness Evaluation, Part 1: Outlet Airflow Property Distributions Adjacent to an Energy Wheel . .	266
SHANG, WEI, ROBERT W. BESANT, Energy Wheel Effectiveness Evaluation, Part II: Testing and Monitoring Energy Wheels in HVAC Applications	275
SHERIF, S.A., N.K. AL-MUTAWA, K. BILEN, P.J. MAGO, R.S. THEEN, Psychrometrics in the Supersaturated Frost Zone	753
SHIEH, KUO-PIN, JIIN-YUH JANG, HERCHANG AY, 3-D Thermal-Hydraulic Analysis in Convex Louver Finned-Tube Heat Exchangers	503
SHONDER, JOHN A., JEFF THORNTON, PATRICK HUGHES, Selecting the Design Entering Water Temperature for Vertical Geothermal Heat Pumps in Cooling-Dominated Applications	475
SHYU, RUEY-JONG, JIN-SHENG LEU, MIN-SHENG LIU, CHI-CHUAN WANG, Effect of a Successively Variable Louver Angle on the Air-Side Performance of Fin-and-Tube Heat Exchangers	510
SMITH, VERNON A., DONALD R. FISHER, Estimating Food Service Loads and Profiles	733
SODERBERG, ERIC W., JAMES W. LEACH, Test of an Earth-Coupled Heat Pump with Aboveground Water Storage	600
SPARROW, EPHRAIM M., JOHN P. ABRAHAM, GERALD L. MARTIN, JIMMY C. TONG, Air-to-Air Energy Exchanger Test Facility for Mass and Energy Transfer Performance	450
SREBRIC, JELENA, QINGYAN CHEN, A Method of Test to Obtain Diffuser Data for CFD Modeling of Room Airflow	108
STAMPER, EUGENE, The Role of the National Institute of Standards and Technology in Development of Energy Calculation Programs	684
STENNER, ROBERT D., DONALD L. HADLEY, PETER R. ARMSTRONG, MICHAEL C. JANUS, Whole-Building Airflow Network Characterization by a Many-Pressure- States (MPS) Technique	645
STEWART, WILLIAM E., Operating Characteristics of Five Stratified Chilled Water Thermal Storage Tanks	12

T

- TAN, K.X., S.M. DENG, Desuperheater Heat Recovery Hot Water Heating Systems in Subtropics Using Water Cooling Towers to Extract Heat from Ambient Air as Heat Source 608
- TANAKA, HIROSHI, HIROSHI OKANO, TSUTOMU HIROSE, HIROSHI FUNATO, SHU ISHIHARA, A Novel Total Heat Exchanger with Little Odor Transfer Using Ion Exchange Resin as a Desiccant 66
- THEEN, R.S., S.A. SHERIF, N.K. AL-MUTAWA, K. BILEN, P.J. MAGO, Psychrometrics in the Supersaturated Frost Zone 753
- THOMAS, LINDON C., MOHAMED A. ANTAR, Heat Transfer Through a Composite Wall with Enclosed Spaces: A Practical Two-Dimensional Analysis Approach 318
- THORNTON, JEFF, JOHN A. SHONDER, PATRICK HUGHES, Selecting the Design Entering Water Temperature for Vertical Geothermal Heat Pumps in Cooling-Dominated Applications 475
- TONG, JIMMY C., EPHRAIM M. SPARROW, JOHN P. ABRAHAM, GERALD L. MARTIN, Air-to-Air Energy Exchanger Test Facility for Mass and Energy Transfer Performance 450

U

- UPHAM, REBECCA D., GRENVILLE K. YUILL, WILLIAM P. BAHNFLETH, A Validation Study of Multizone Air Flow and Contaminant Migration Simulation Programs as Applied to Tall Buildings 629

W

- WANG, CHI-CHUAN, RUEY-JONG SHYU, JIN-SHENG LEU, MIN-SHENG LIU, Effect of a Successively Variable Louver Angle on the Air-Side Performance of Fin-and-Tube Heat Exchangers 510
- WANG, XINLEI, LINGYING ZHAO, YUANHUI ZHANG, GERALD L. RISKOWSKI, LESLIE L. CHRISTIANSON, Measurement of Two-Dimensional Air Velocities in a Full-Scale Room Using Particle Image Velocimetry 434
- WANG, XINLEI, YUANHUI ZHANG, G.L. RISKOWSKI, L.L. CHRISTIANSON, S.E. FORD, Particle Separation Efficiency of a Uniflow Deduster with Different Types of Dusts 93
- WATTERS, RICHARD J., DENNIS L. O'NEAL, JIANXIN YANG, Effect of Fin Staging on Frost/Defrost

Performance of a Two-Row Heat Pump Evaporator at Standard Test Conditions 240

- WATTERS, RICHARD J., DENNIS L. O'NEAL, JIANXIN YANG, Effect of Fin Staging on Frost/Defrost Performance of a Two-Row Heat Pump Evaporator under Heavy Frosting Conditions 250
- WAWRYK, MAURY, WEI SHANG, ROBERT W. BESANT, Air Crossover in Rotary Wheels Used for Air-to-Air Heat and Moisture Recovery 72
- WEAVER, D.S., R.L. JUDD, P.A. FEENSTRA, Practical Device for Surface Tension Measurement in Volatile Fluids, A 117
- WICH, T., P.K. BANSAL, M.W. BROWNE, J. CHEN, Design and Modelling of New Egg-Crate Type Forced Flow Evaporators in Domestic Refrigerators 204
- WILSON, M.J., D.A. YASHAR, H.R. KOPKE, D.M. GRAHAM, J.C. CHATO, T.A. NEWELL Investigation of Refrigerant Void Fraction in Horizontal, Microfin Tubes, An 173

Y

- YANG, JIANXIN, RICHARD J. WATTERS, DENNIS L. O'NEAL, Effect of Fin Staging on Frost/Defrost Performance of a Two-Row Heat Pump Evaporator at Standard Test Conditions 240
- YANG, JIANXIN, RICHARD J. WATTERS, DENNIS L. O'NEAL, Effect of Fin Staging on Frost/Defrost Performance of a Two-Row Heat Pump Evaporator under Heavy Frosting Conditions 250
- YANG, H., Z. ZHU, J. BURNETT, L. LU, A Simulation Study on the Energy Performance of Photovoltaic Roofs 129
- YANG, K. H., S. K. LEE, Experimental Validation of Tunnel Ventilation System Under Emergency Operation 84
- YASHAR, D.A., M.J. WILSON, H.R. KOPKE, D.M. GRAHAM, J.C. CHATO, T.A. NEWELL Investigation of Refrigerant Void Fraction in Horizontal, Microfin Tubes, An 173
- YIN, J.M., CLARK W. BULLARD, D.E. BOEWE, P.S. HRNJAK, Contribution of Internal Heat Exchanger to Transcritical R-744 Cycle Performance 189
- YU, JIA-LEI, MING-TSUN KE, YONG-REN ZHENG, SIH-LI CHEN, Numerical Analysis for Optimizing Flow Field in Charging SMIF Pod by Inert Gas 353
- YUILL, GRENVILLE K., REBECCA D. UPHAM, WILLIAM P. BAHNFLETH, A Validation Study of Multizone Air Flow and Contaminant Migration Simulation Programs as Applied to Tall Buildings 629

Z

- | | |
|--|---|
| <p>ZAHEER-UDDIN, M., G.R. ZHENG, Multistage Optimal Operating Strategies for HVAC Systems 346</p> <p>ZARR, ROBERT R., A History of Testing Heat Insulators at the National Institute of Standards and Technology 661</p> <p>ZHANG, YUANHUI, LINGYING ZHAO, XINLEI WANG, GERALD L. RISKOWSKI, LESLIE L. CHRISTIANSON, Measurement of Two-Dimensional Air Velocities in a Full-Scale Room Using Particle Image Velocimetry 434</p> <p>ZHANG, YUANHUI, XINLEI WANG, G.L. RISKOWSKI, L.L. CHRISTIANSON, S.E. FORD, Particle Separation Efficiency of a Uniflow Deduster with Different Types of Dusts 93</p> | <p>ZHAO, LINGYING, YUANHUI ZHANG, XINLEI WANG, GERALD L. RISKOWSKI, LESLIE L. CHRISTIANSON, Measurement of Two-Dimensional Air Velocities in a Full-Scale Room Using Particle Image Velocimetry 434</p> <p>ZHENG, J.X., G.P. JIN, M.-C. CHYU, Z.H. AYUB, Flooded Boiling of Ammonia with Miscible Oil Outside a Horizontal Plain Tube 298</p> <p>ZHENG, G.R., M. ZAHEER-UDDIN, Multistage Optimal Operating Strategies for HVAC Systems 346</p> <p>ZHENG, YONG-REN, MING-TSUN KE, SIH-LI CHEN, JIA-LEI YU, Numerical Analysis for Optimizing Flow Field in Charging SMIF Pod by Inert Gas 353</p> <p>ZHU, Z. H. YANG, J. BURNETT, L. LU, A Simulation Study on the Energy Performance of Photovoltaic Roofs 129</p> |
|--|---|

